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MONTHLY LABOR REVIEW

U.S. Department of Labor

Bureau of Labor Statistics

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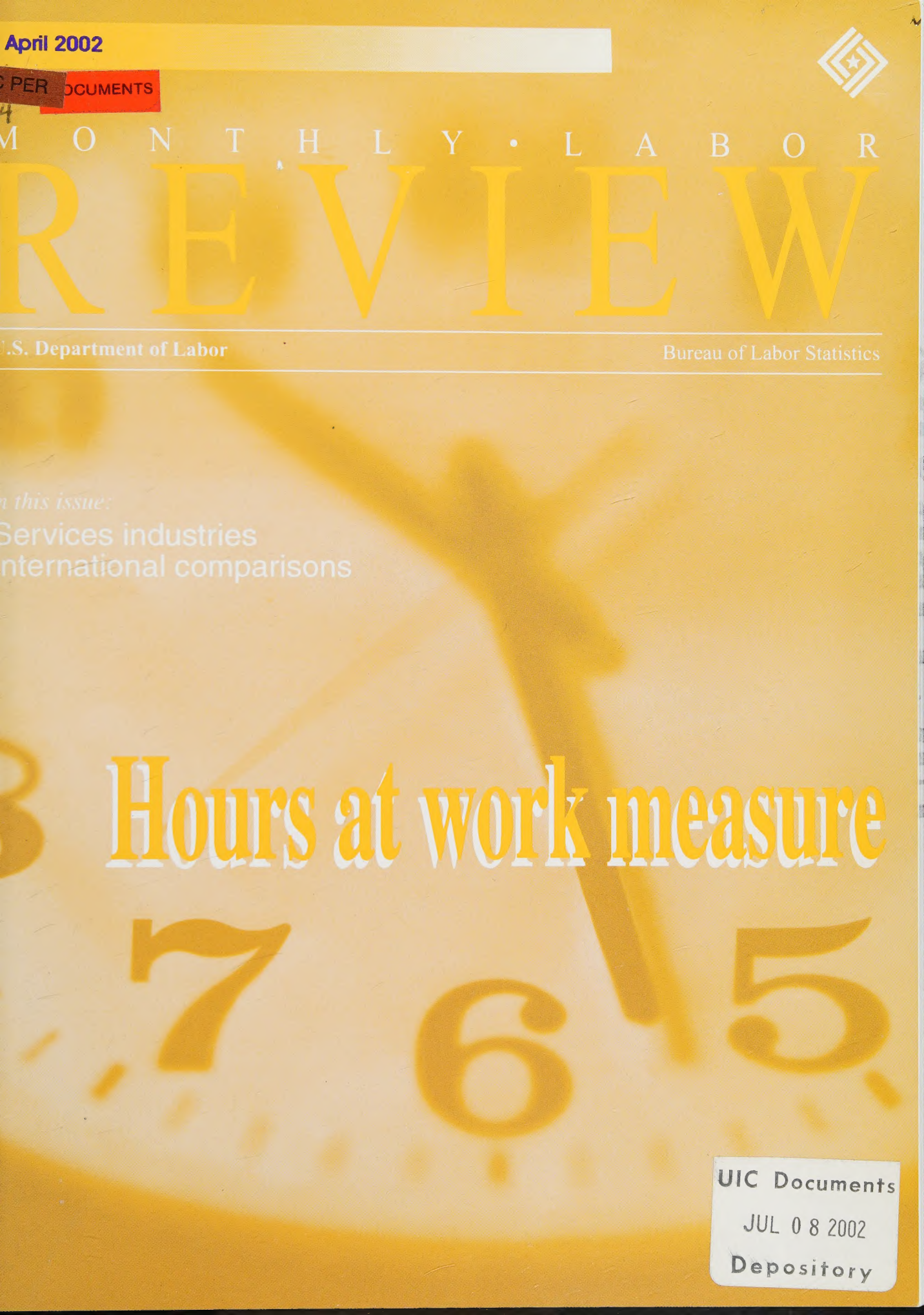

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REVIEW

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The April *Review*

The Bureau of Labor Statistics breaks out goods- versus service-producing employment as far back as 1919. Even in those days, well before anyone had heard of the service economy or of a new information-based economy, service-producing employment exceeded goods-producing employment. Back then, however, the two were roughly even, while today the service-producing sector is the larger by a factor of roughly four.

Furthermore, as Bill Goodman and Reid Steadman lead their report by stating, about 97 percent of the last dozen years' employment growth came in the service-producing sector. Within that sector, it has been business-oriented industries that have been driving an increasing share of growth, as the payrolls of computer, personnel supply, and management and public relations establishments have expanded.

In the shorter term, even the business services industries have been caught in the recent economic downdraft. Rachel Krantz briefs us on what has proven to be the sharpest decline in business services in the 43-year record of its employment figures. Personnel services establishments were especially affected during the period covered by this study.

In the context of exploring the methods and procedures suitable for placing United States and Japanese unemployment statistics on roughly the same conceptual footing, Toshihiko Yamagami's article suggests that labor underutilization in Japan may currently be greater than that in the United States. This would represent the first time that Japan's unemployment rate, as calculated using U.S. definitions, exceeded the U.S. rate.

In addition to the impacts on employment structure, the shift to services has had an impact on the structure of individual workweeks as well. John P. Robinson, Alain Chenu, and Anthony S. Alvarez reason that in the service sector, the measured unit of work is more likely to be projects completed rather than hours worked. In addition, factors such as globalization, more frequent transfers and schedule changes, and the blurring distinction between work and nonwork makes measuring work hours a more complex job. The article goes on to describe a grid reporting approach used in Europe with some success.

Alain Chenu and John P. Robinson also contribute a piece that outlines the additional insight such a grid reporting system can lend to understanding the time-use patterns within dual-earner families.

20 million worked at home

In May 2001, 19.8 million persons usually did some work at home as part of their primary job. These workers, who reported working at home at least once per week, accounted for 15 percent of total employment. A little more than half of those who usually worked at home were wage and salary workers who took work home on an unpaid basis. Another 17 percent had a formal arrangement with their employer to be paid for the work they did at home. The remainder were self-employed.

Of those who reported working at home at least once per week in 2001, almost two-thirds (64 percent) were managers and professionals. The next most common occupation was technical, sales, and administrative support, at 24 percent.

Among wage and salary workers who work at home at least once per week, the most common reason is to "finish or catch up on work" (46 percent). An additional 33 percent report that they work at home because it is the "nature of the job." Find out more in "Work at Home in 2001," news release USDL 02–107.

Few days lost to work stoppages

The number of days idle because of strikes and lockouts was at a historic low in 2001. There were 1.2 million workdays of idleness in 2001 due to major work stoppages. Major work stoppages are defined as strikes or lockouts that idle 1,000 or more workers and last at least one shift. The previous low for days of idleness due to work stoppages was 2 million in 1999.

Fifty-three percent of last year's work stoppage days of idleness (608,300 days) stemmed from four major disputes. The one with the most days was between the State of Minnesota and the American Federation of State, County, and Municipal Employees and the Minnesota Association of Professional Employees (242,500 days); and the second was between the State of Hawaii's Department of Education and the National Education Association (161,200 days). The third was between Comair and the Airline Pilots Association (116,600 days), and the fourth involved the Midwest Generation Company and the International Brotherhood of Electrical Workers (88,000 days). Learn more from news release USDL 02–153, "Major Work Stoppages, 2001."

Respirators used in 10 percent of workplaces

Respirators had been used by employees in about 10 percent of the private industry workplaces surveyed in late 2001. The term "respirator" refers to any device designed to provide the wearer with respiratory protection against inhalation of a potentially hazardous atmosphere. Dust masks, full-facepiece respirators, and self-contained breathing apparatuses (where air or oxygen is carried in a tank on the worker's back) are examples of respirators.

In nearly half of the 619,400 establishments where respirators were used, they were used by employees on a voluntary basis only, and, in about 12 percent, they were used only when required because of emergencies. These data are from a special survey conducted by BLS for the National Institute for Occupational Safety and Health. Find more information in news release USDL 02–141, "Respirator Use and Practices." □

Services: business demand rivals consumer demand in driving job growth

The services division, a part of the service-producing sector, contributed more than half of U.S. job growth between 1988 and 2000; rising demand from enterprises was key

Bill Goodman
and
Reid Steadman

More than 97 percent of the jobs added to U.S. payrolls in approximately the last 12 years were provided by the service-producing sector. That sector is divided into six major divisions of industries, including: *transportation*, *communications*, and *public utilities*; *wholesale trade*; *retail trade*; *finance*, *insurance*, *and real estate*; *services*; and *government*. (See chart 1.) Just one of the six divisions, services—which includes such diverse industries as healthcare, entertainment, temp agencies, and business consulting—gained considerably more than half the jobs added to the U.S. economy and became the largest division by far. As late as 1984, the numbers of jobs in the manufacturing, retail trade, government, and services divisions were reasonably comparable. By 1999, services had about twice the employment of manufacturing or government and about one and three-quarters times the number of jobs in retail trade.[1]

This article is concerned with the question of why the services division gained so many jobs. The long-term upward trend of services jobs and its causes are the major subjects of this article; cyclical effects are not addressed. One way of approaching the present subject is to trace the demand for the services provided by the division. "Input-output" analysis is concerned fundamentally with producers' requirements for goods and services in order to produce other goods and services. Input-output analysis is used in this article to quantify purchases of the relevant services by the various industries of our economy and by the sources of final demand, such as government, international trade, and personal consumption.[2] This article first describes job growth as distributed among the various industries of the services division. To explain job growth, the sales of the various services are broken down by type of purchaser. In each major group of industries within the services division, the greatest source of demand turns out to be either personal consumption or producers' needs. Various economic, demographic, political, and social changes that increase demand for certain services are described; so are certain restraints on the growth of particular services.

The major services industries are each characterized as primarily consumer-oriented, primarily business-oriented, or mixed, in accordance with the quantities of demand from business and consumer. Job trends in the three *totals* of business-oriented industries, consumer-oriented industries, and mixed industries are then analyzed in the context of certain social, economic, and political trends.

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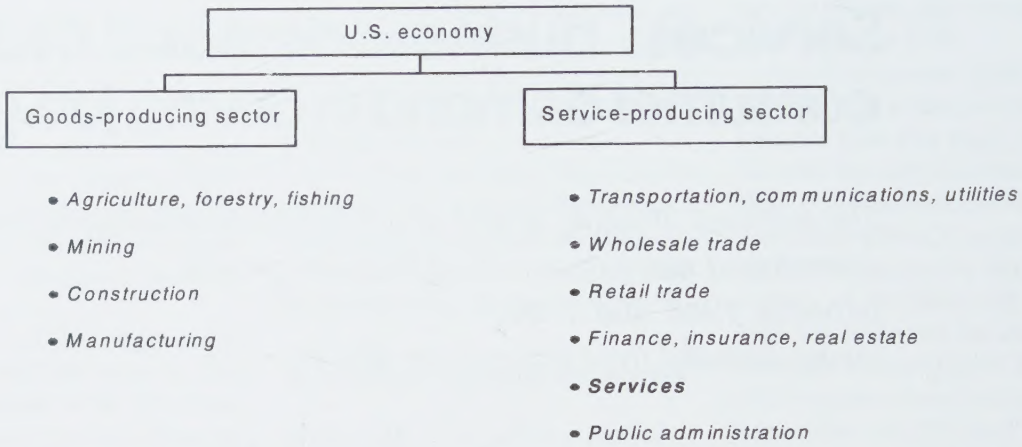
Chart 1. The divisions of the U.S. economy, according to the 1987 Standard Industrial Classification system



The services division

The main groups of industries in the services division are:[3]

- certain agricultural services (including, most importantly, landscaping and horticulture)
- hotels and other lodging places
- personal services (such as dry cleaning, hairstyling, and tax preparation)
- business services (such as temp agencies and computer software)
- automotive services
- miscellaneous repairs
- motion pictures
- amusements and recreation
- healthcare
- legal services
- private education
- social services
- museums, botanical gardens, and zoos
- membership organizations (such as associations or churches)
- engineering and management services (including consulting)
- miscellaneous services

A clear-cut *conceptual* definition of the services division is problematic, as the services included are diverse in nature. Actually, the division is a miscellaneous category consisting of those parts of the services sector not claimed by other divisions such as retail trade or government. In fact, the services division is sometimes labeled as "other services." The economic activities of the division may be primarily physical (for example, repairs); intellectual (example: education); aesthetic (examples: art museums and performance); or otherwise of experiential value (for example, recreation). Service-producing industries may function by changing a physical object (as in auto repairs); the consumer's self (examples: healthcare and education); an organization (for example, management consulting); or may have no such readily apparent object (as in legal representation or professional sports). No single concept, then, serves to describe all the industries in the services division.

Because the industries of the division are so diverse, one would expect that increases in *various* sources of demand are responsible for the division's job growth. The relative importance of personal consumption and demand from business in driving growth varies to an extreme extent among the division's industries. Furthermore, the industries that buy the greatest quantities of each business-oriented service vary greatly in accordance with the nature of the service. Many changes in our society—in demographic characteristics, technology, business practices, government policy, and individual lifestyle—affect the numbers of jobs in the industries of the division.

The industries adding the most jobs

During approximately the last decade, two vastly different industries within the services division, *business services* and *healthcare*, were responsible for the largest shares of

Table 1. Growth of jobs in business-oriented and consumer-oriented services, 1988 to 2000

(in thousands)

Service	Percent of output sold to producers,[1] 2000	Percent of output sold to consumers, 2000	Percent of output sold to government excluding government enterprises, 2000	Growth in jobs		Job growth as percentage of total job growth in services division	Employment in 2000 as a percentage of total services-division employment
				Thousands	Percent		
Services division	48	51	0.2	14,956	59	100	100
Total business-oriented services	84	5	9	6,778	88	45	36
Agricultural services	66	26	8	354	79	2	2
Business services	86	4	10	5,220	113	35	24
Services to buildings	82	11	6	214	27	1	2
Personnel supply[2]	93	3	5	2,537	188	17	10
Computer services	73	2	23	1,422	211	10	5
Miscellaneous repair	69	22	6	16	5	0	1
Engineering and management services	86	4	8	1,188	53	8	8
Engineering, architectural	94	0	0	287	39	2	3
Accounting, auditing, miscellaneous	95	2	3	188	35	1	2
Management and public relations services	88	0	11	582	114	4	3
Total consumer-oriented services	7	[2]104	[3]–11	6,828	49	46	52
Personal services	16	83	1	195	18	1	3
Amusements, recreation	22	80	[3]–2	751	77	5	4
Healthcare	3	[2]112	[3]–14	2,990	42	20	25
Offices of healthcare practitioners	0	99	1	1,162	60	8	8
Nursing, personal care facilities	0	100	0	485	37	3	4
Hospitals	0	[2]131	[3]–31	697	21	5	10
Home healthcare	–	–	–	427	198	3	2
Private education[4]	16	[2]119	[3]–35	758	48	5	6
Social services	4	92	4	1,351	87	9	7
Individual, family, miscellaneous	1	96	3	440	78	3	2
Job training, vocational rehabilitation	33	61	6	139	58	1	1
Child daycare	0	98	2	356	100	2	2
Residential care	0	94	6	417	107	3	2
Museums, etc.	0	[2]103	[3]–3	48	83	0	0
Membership organizations	3	96	0	734	42	5	6
Religious organizations	–	–	–	619	63	4	4
Total mixed services	46	50	2	1,205	34	8	12
Lodging places	45	56	[3]–1	372	24	2	5
Automotive services	41	56	2	415	50	3	3
Motion pictures	50	34	1	253	74	2	1
Legal services	53	41	4	165	20	1	2

[1]Figures include intermediate flows of commodities and producers' investments in software and durable equipment.

[2]Sales of more than 100 percent indicate that some purchases are of services produced by government while private-sector production is the base.

[3]Negative figures indicate that government is a net producer, rather than a net consumer, of the services.

[4]Employment figures represent private education, but sales figures include some government educational services.

NOTE: Sales figures are from Employment Projections, Bureau of Labor Statistics. Employment figures are from Current Employment Statistics Division, Bureau of Labor Statistics.

Dash indicates data not available.

new jobs in the division.[4] (See table 1.) In fact, the two industries account for more than half the growth in the division's jobs.

Business services, as the name implies, almost exclusively sell their output to other businesses. Just 4 percent of sales were attributable to personal consumption, while 86 percent of business services were sold to businesses. The remaining portion of the industry's output was sold mainly to government.

The business services industry has many components, but two of them stand out in numbers of jobs gained. *Personnel supply* (including traditional employment agencies, temp agencies, and other organizations that find or supply labor to clients) and *computer services* (including mass-produced soft-

ware, custom programming, complete custom systems design, leasing, and more) together gained more than three-quarters of the 5.2 million jobs added to business services from 1988 to 2000. Personnel supply, however, gained almost twice as many jobs as computer services. (See chart 2.) Though these two industries are to some extent tied to the growth of the companies that contract them, the expansion of personnel supply services and computer services has been principally a consequence of changes in business processes. Within the period of 1988 to 2000, the use of both computer technology and supplied personnel became much more fundamental in business operations.

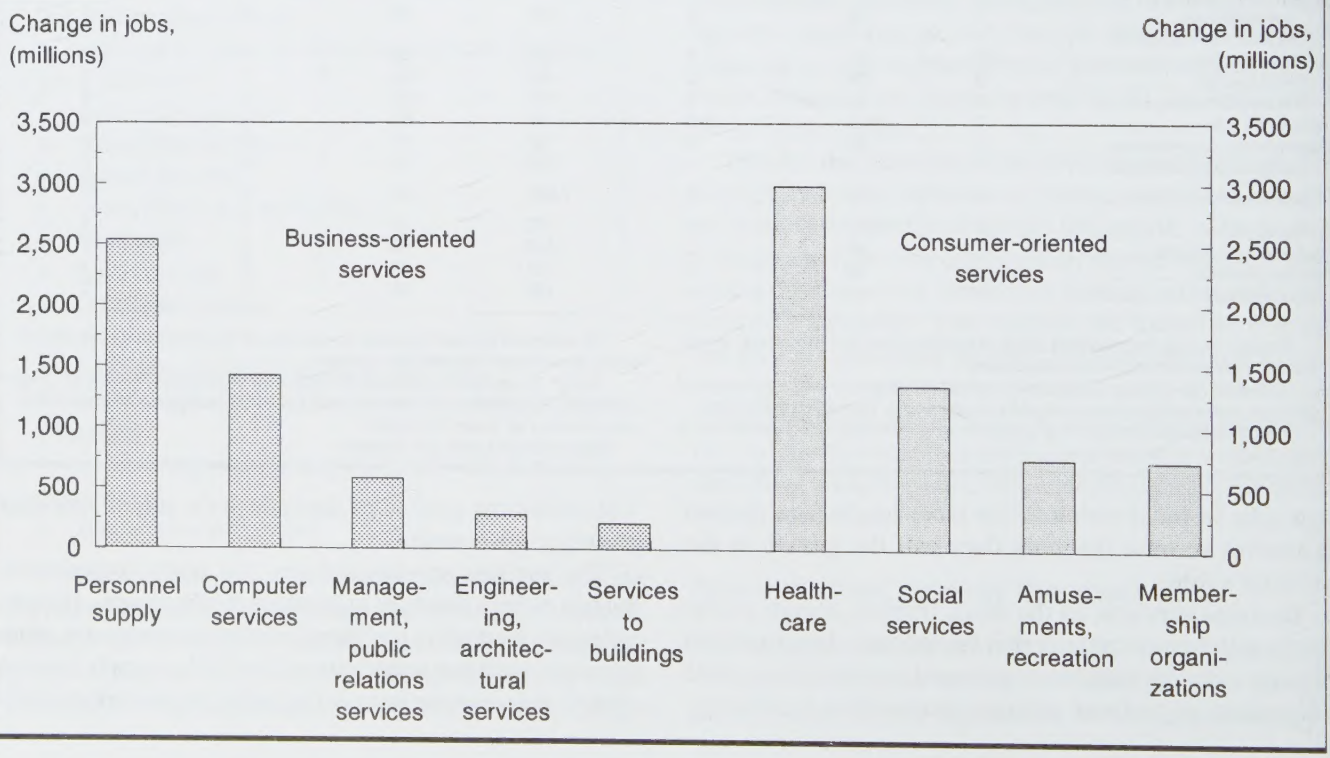
Within the healthcare industry, four components added tremendous numbers of jobs. Offices of physicians and other practitioners, nursing and personal care facilities, hospitals, and home healthcare gained 430,000 to 1.2 million jobs each. Two of the main factors driving the increases in healthcare are the development of new medical procedures, which require additional personnel to perform them, and an increasing proportion of elderly individuals.

Services industries ranking just below business services and healthcare in numbers of jobs gained are social services such as daycare, residential care of the elderly, and other individual and family services; engineering and management services (including management consulting); private education; amusements and recreation; and membership organizations (including houses of worship). Clearly, the major gainers in services include both industries primarily servicing businesses and industries primarily serving individuals.

Quantifying demands for services

The input-output tables produced by the Employment Projections unit of the Bureau of Labor Statistics may be used as a source of data to calculate the portion of a service's total sales to intermediate flows in the creation of another product or service. Input-output data also can be used to calculate the portion of sales to personal consumption, as well as to other types of final demand, such as international trade, government, and investment. However, intermediate business demand, producers' investment in durable equipment and software, and personal consumption account for nearly all (99 percent) of the sales of commodities produced primarily by the services division. (See table 1.) In this article, intermediate business demand, producers' investment in software (found in sales of computer services), and producers' investment in durable equipment (found in sales of engineering and architectural services) are viewed together as purchases by businesses, and the analysis contrasts purchases by producers with those made by consumers.

Chart 2. Growth of jobs in selected business-oriented or consumer-oriented services, 1988 to 2000



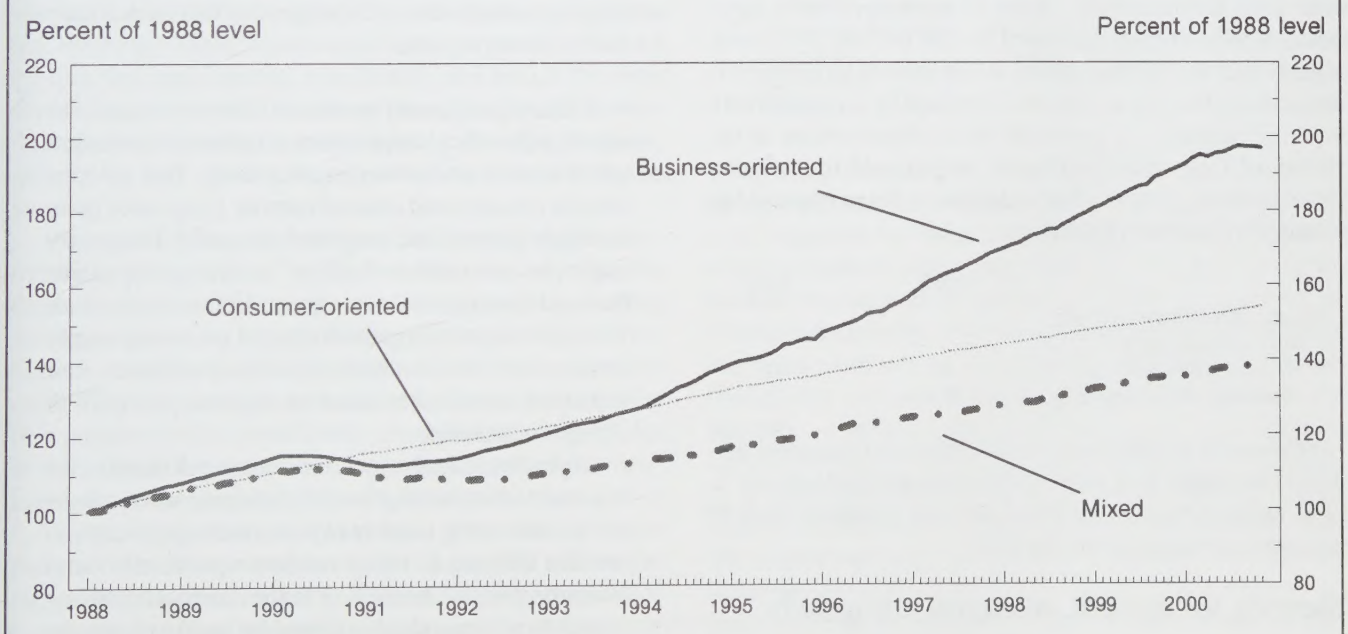
To be exact, a distinction should be made between the concept of an industry and the concept of a commodity. While each establishment is classified within an industry on the basis of the establishment's main economic activity—the production of a good or a service—the establishment may also engage in the production of a secondary commodity (a good or service produced at the same work site but to which fewer resources are devoted). Therefore, the output of an industry may not exactly equal the output of its main associated commodity. For example, hotels and motels are one industry, and eating and drinking places are another. If a hotel operates a dining room as a secondary activity, the personnel working in food preparation and service there falls into the lodging industry, despite producing a commodity more closely associated with eating and drinking places. The input-output "use" tables, extensively utilized in this article, quantify the sales of commodities rather than the sales of the output of industries. Nevertheless, we believe that the "use" tables are extremely valuable in explaining the employment trends of industries. Demand for an industry's main product or service is surely relevant to that industry's hiring.

Most major commodity groups produced primarily within the services division either are sold to business far more than to consumers or are sold to consumers much more than to business. In other words, relatively few main commodity groups associated with the division serve personal consumption and business demand about equally. Of the 15 main commodity groups associated with the division, 11 sell at least 66 percent of output either to business or to personal consumption. In most of those 11 groups, the percentage of sales to the main source of demand is even higher—more than 80 percent in 9 of the 11 cases. Furthermore, the 11 groups dominated by either type of demand, as opposed to the four groups serving each type of demand more equally, have a vast majority (87 percent) of the employment in the division.

Accordingly, the 15 main industry groups of the services division have been classified for purposes of this article as business-oriented, consumer-oriented, or mixed. The consumer-oriented groups are most numerous (seven) and, of the three classifications, have the greatest share of jobs in the division. Four main industry groups are business-oriented, and four relatively small main industry groups are mixed. (See table 1.)

The job trends of the business-oriented total and of the consumer-oriented total show large contrasts. Consumer-oriented services, the most numerous type, have the bulk of employment in the services division; accordingly, they contributed the greater increase over the period from 1988 to 2000. But jobs in the smaller group, business-oriented services, grew at a much higher percentage rate. (See chart 3.) Therefore, business-oriented services increased their share of jobs in the division. Consequently, consumer-oriented services de-

Chart 3. Indexed employment in business-oriented, consumer-oriented, and mixed services, 1988 to 2000



NOTE: Data are seasonally adjusted.
SOURCE: Current Employment Statistics Division, Bureau of Labor Statistics.

clined slightly in their share of jobs. The differences in the rates of growth among the three classifications are striking. Jobs in consumer-oriented services increased by 49 percent over the 12-year period, but business-oriented services grew by 88 percent. The mixed services increased by 34 percent, the lowest percentage, and became an even smaller piece of the division. To a greater extent, services are available either for consumers or for business, but not so much for both within the same industry. The development constitutes one form of increasing specialization in our society. The following table shows employment as a percentage of total services-division employment:

	1988	*2000*
Business-oriented industries	30	36
Consumer-oriented industries	55	52
Mixed industries	14	12

During the 12-year period, some consumer-oriented services became even more predominantly sold to consumers. In particular, healthcare, private education, social services, and membership organizations increased their already large proportion of output sold to consumers, decreased their small proportion of output sold to producers, or both. These shifts in sales constitute an additional trend toward greater specialization in industries: the consumer-oriented industries became even more consumer-oriented.

The shifts in sales of consumer-oriented services influenced total sales of the services division toward the consumer. At the same time, the faster growth of business-oriented services influenced sales in the opposite direction, toward sales to businesses. Sales of services-division commodities to businesses increased by 156 percent (in current dollars) over the 12-year period, while sales of services-division commodities to consumers increased by a considerably lesser 129 percent. A net result was a slight increase in the portion of total services-division output sold to business, and conversely a slight relative decline in the portion sold to consumers (as shown below).

	1988	*2000*
Percent of services-division sales attributable to:		
Business demand	45	48
Personal consumption	53	51

While sales of consumer-oriented services (in current dollars) were greater than those of business-oriented services in 1988, sales of business-oriented services exceeded those of consumer-oriented services by 2000.

Reasons for growth, restraints on growth

Business-oriented services. Three broad economic developments are highly relevant to the growth of business-oriented services: *contractual labor arrangements* (such as outsourcing), *increased construction activity*, and *changing technology*. Each of the three factors' effects extended to multiple business-oriented services.

The effects of outsourcing or other alternatives to traditional, direct hiring are most obvious in the field of *personnel supply*, including temp agencies and employee leasing. Excluding the most traditional facet of the industry, namely employment agencies that provide placement in exchange for a fee, the contracted workers are formally employed by and receive their pay from the help-supply agency, though they are responsible for the tasks assigned to them by the companies that purchase their skills. The job increase in personnel supply—2.5 million—was so great that it was slightly more than three-quarters of the number added to the entire healthcare industry.

In personnel supply, two potential sources of growth are readily identifiable. First, industries that use supplied workers may expand, and therefore increase demand for personnel services. Second, managers of client industries may shift the compositions of their labor forces to utilize more supplied workers. In a recent paper, Marcello Estevao and Saul Lach point to the latter reason for the growth in personnel supply, citing a change in managers' hiring behavior as the predominant source of employment growth in the personnel supply industry.[5] They observe that from the mid-1980s to the mid-1990s, a surge in demand arose in manufacturing firms for temporary help supply workers. Many variables factor into the development of managers' new hiring practices. According to economists, company managers are taking advantage of temporary personnel—and the agencies that market them—for the following reasons:

- Utilizing temporary personnel allows companies to rapidly adjust their employment to optimum levels that match current production requirements. This practice reduces unwarranted expenditures by tying labor costs closely to present and projected demand.[6] Temporary employees are used as "buffers" to mitigate negative financial consequences of surges or declines in demand. The high variance in growth rates of personnel supply employment substantiates anecdotal evidence that managers use flexible labor to respond promptly to changes in demand.
- Agencies now often conduct training of recruits. In response to the growing need for computer-savvy workers, an increasing number of personnel supply companies are offering to equip workers with fundamental computing skills. According to the American Staffing Association, expenditures footed by staffing agencies for skills training increased to $720 million in 1997 from $260 million in 1995.[7] Because numerous client compa-

nies benefit from contracting trained workers, economies of scale lessen the financial burden that might otherwise be borne by each company.[8]

- Contracting through temporary help supply agencies often aids the process of permanent, direct hiring. Client companies often use temporary workers' time with them as a probationary period when the companies can evaluate the worker for a directly hired position. Utilizing this practice allows companies to expend less time and money finding, interviewing, and training workers. This practice potentially decreases turnover rates as companies hire workers that are good matches for the positions they fill.[9]

In summary, the cost efficiency of supplied workers and the shorter-term commitment of contractual labor arrangements are major reasons why many company managers have decided to make extensive use of supplied labor.[10] The tremendous job growth of the personnel supply industry, an increase of 2.5 million jobs during the period, is one result.

The addition of jobs to personnel supply and other industries that sell contractual labor as a substitute for direct hiring must be interpreted with caution. The growth of contractual labor represents, in part, a shifting of jobs from industry to industry rather than sheer growth—if contractual labor were not available, the clients might hire or continue to employ people directly. Growth in personnel supply and certain other industries is to some extent offset by its effects on employment levels in the client industries.

Because contractual labor can be more affordable and often entails a shorter commitment than direct hiring, contractual labor may enable firms to acquire a larger number of workers than they could recruit, hire directly, and train at the same costs. If so, contractual labor may have the effect of increasing total employment to some extent by lowering its costs, rather than *only* shifting employment from one industry to another.

Contractual arrangements instead of direct hiring also contribute to the growth of *management services*. Unlike the formerly typical scenario of a consulting company leaving management with a report and then ceasing to be involved, modern consultants often contribute actively to the transformation of a business process, and may leave some of their own personnel onsite indefinitely to run that process partially or fully. Facilities support services, another part of the management services industry, has also been on the rise.

Furthermore, the trend toward more contractual arrangement of labor as opposed to simple hiring also affects the *engineering services* industry. In the current environment of constantly changing technology, the proportion of engineers working directly for manufacturers has declined (to 45 percent from 53 percent), while the proportion in professional services has risen (to 20 percent from 15 percent). The redistribution of engineers by industry implies an increasing prevalence of contractual engineering.[11]

Increases in *construction activity* at least potentially fuel growth in engineering, architectural, surveying, and landscaping and horticultural services. The construction division purchases 55 percent of those *engineering services* sold as an intermediate commodity, largely because of the need for civil engineering when public works such as bridges or tunnels are built.

Engineering increased its employment proportionately more than did heavy construction, suggesting that at least one other factor also serves as an upward influence on contractual engineering. As previously mentioned, more contracting out of engineering for manufactured products is implied by the shift of engineers away from manufacturing and into services. From 1988 to 2000, according to input-output tables, manufacturing, communications, and real estate bought increased portions of engineering and architectural services.

According to data from the Current Population Survey, the increase in numbers of employed engineers from 1988 to 2000 was concentrated in the fields of civil, electrical and electronic, industrial, and mechanical engineers, as shown in the following tabulation:

	Change, 1988 to 2000	
Occupation	*Thousands*	*Percent*
Engineers	288	16
Civil	70	32
Electrical, electronic	152	27
Industrial	23	10
Mechanical	45	15
All others	–2	0

Of these occupations, civil engineers increased by the greatest percentage. Furthermore, a 76-percent increase of civil engineers in "other professional services" industries, which include consulting engineers, suggests that use of contractual engineering for purposes related to structures increased substantially. More broadly, a 63-percent increase of engineers employed in "other professional services" industries greatly exceeded that of engineers in all industries (16 percent). A general shift toward contractual engineering as opposed to directly hiring engineers is therefore suggested.

A relationship between construction activity and employment in the *architectural and surveying* industries is clear. The employment trends of construction and architectural and surveying services are extremely close. Employment in architectural and surveying services follows the trend of construction employment much more closely than the trend of general economic activity as represented by real gross do-

mestic product. Linear correlation shows that more than 99 percent of the variation in architectural and surveying employment from 1988 to 2000 can be predicted on the basis of employment in construction.

Growth in the business-oriented services most closely associated with construction was, however, generally at relatively slow rates in the context of business-oriented services. As shown in table 1, higher growth rates in business-oriented services were primarily in personnel supply, computer services, and management and public relations—fields more associated with flexible labor arrangements and technological change.

Between 1988 and 2000, probably the most important change in business was the widespread incorporation of *computer technology* into the workplace. During the time period, the functionality, speed, and utilization of computers exponentially increased; and computers became vital business tools and facilitators of greater efficiency. As the computer in its many forms rapidly penetrated business markets, the demand for personnel to service and program the computers grew. Like personnel supply, *computer services*, including the software industry, cater primarily to businesses, generating most of their revenue from intermediate transactions rather than from consumers. In 2000, 73 percent of computer-services sales were to other businesses. Excluding government enterprises, government bought 23 percent; and despite the popularity of home computers, consumers accounted for only 2 percent of sales.

The scope of the products, knowledge, and services in which the computer services industry deals is expansive. The advent of the Internet in the early and mid-1990s made the industry even more varied. In general, computer service establishments repair, maintain, design, and develop software and hardware for all types of computers and networks, including Internet service providers.

The upward trend of employment in computer services is the result of two main factors: first, the continuing development of computer technology, and second, a shift in client companies' business models to include more outsourcing of technological services.

Moore's Law says that computer chip speed doubles every 18 months. Though seemingly improbable, this "Law" generally held true throughout the 1990s. Increasing processing speed enabled programmers to create and use a wider range of more sophisticated applications in business processes with improved speed and efficiency.[12] *The Wall Street Journal* reports that the cost per million instructions a second in 1995 was one-thousandth the cost in 1985.[13] The increased value of computer technology allowed a greater number of businesses to financially justify their purchases of computer hardware and software.

In addition to faster speed, computers became more "user-friendly." Computer makers and software manufacturers began marketing applications that appealed to those who desired to use computers but were not expert in programming languages. As such innovations improved the functionality of computers, they became more viable business tools for those not explicitly involved in programming.

Another innovation that increased computer usage—and consequently, the demand for computer services—was the founding of computer industry standards.[14] The most important standard that developed over a series of years was the acceptance of a highly compatible operating system. Until the early 1990s, Apple and Microsoft marketed popular competing operating systems that were essentially incompatible. Because Microsoft decided to license its technology and increase its market presence, its Windows platform eventually won the lion's share of the market and became the standard operating system. Companies were able to invest heavily in technological capital, including software and hardware, knowing that their systems would not soon be outdated by an incompatible competing application. As companies invested in hardware and software , their demand grew for human capital to customize and maintain the software and hardware for their respective business processes.

The widespread implementation of the Internet also undoubtedly spurred growth in computer services. Since 1995, the year when the Internet achieved feasibility as a business medium, the number of jobs in computer services has increased by more than 90 percent.

The increasing speed of computer chips, friendlier applications, creation of industry standards, and Internet growth have all increased the need for computer services workers.

While the addition of 1.4 million jobs to the computer services industry is one clear reflection of the constant change and vast popularity of computer technology, changing computer technology also contributes to the growth of *management consulting*. Consultants are often used to upgrade clients' processes that include computer use; indeed, the largest component of a consulting job may be creating or adapting software. The advent of computer technologies in the workplace and advancing business processes required companies to implement and utilize new systems quickly in order to stay competitive. The integration of high technology into almost every aspect of business made using technology-savvy consultants an efficient alternative to direct hires. The consultants are already organized and experienced in improving business processes that include information processing. Management consultants, however, by definition differ from computer services companies in that management consultants are involved in broader changes than upgrading or creating computer technology alone. Just the same, the largest

aspect of a consulting job may be changing or replacing a computer system for performing a particular process.

When the business community accepted the Internet as a viable business tool, clients looked to consultants not only to advise them in Internet strategies, but also to assist them in implementing e-commerce business plans and network infrastructure. The role of consultants was therefore further expanded.

Engineering services also benefit from the constant demand for more advanced intelligent technology in various products, such as major appliances, small appliances, and vehicles. In 2000, automotive and auto-parts manufacturers spent $116 million on engineering performed by outside firms.[15] Changing technology in general, almost by definition, increases demand for various types of engineers (see the preceding tabulation showing increases in engineers by type).

Table 2 breaks down the sales of business-oriented services by the industry division of the purchaser. Some information on the more specific industries most heavily buying certain services may be of interest, especially when the division making the greatest purchases is services, a heterogeneous group of industries. Personnel supply is purchased most within the services division. Within the division, its biggest clients include quite a variety of industries: miscellaneous business services (such as marketing and telephone answering, among others), management and public-relations services, hospitals, computer services, and hotels and motels. When sales of personnel supply to the services division are divided among business-oriented, consumer-oriented, and mixed services, business-oriented services buy the greatest share. The following are purchases of personnel supply services in 2000:

	Purchases by industry of client in billions[16]
Business-oriented services[17]	$18
Consumer-oriented services	13
Mixed services	5

The services division purchases the greatest share of management and public-relations services as well. The specific services industries using them most heavily, excluding sales *within* management and public-relations services, are hospitals ($15 billion) and engineering and architectural services ($5 billion).

Although the business-oriented industries as a group increased in jobs enormously faster than either the consumer-oriented industries or the mixed industries, *accounting, auditing, and bookkeeping* (as well as *engineering and architectural services* and *services to buildings*) had comparatively low growth. The greatest reason for the low growth in *accounting, auditing, and bookkeeping* since 1988 is advances in technology that decreased the time spent on accounting tasks. One of the greatest inventions of the computer age is the simple spreadsheet program. The electronic spreadsheet enabled accountants to move almost all their accounting activities from paper ledgers to computer programs. With a few keystrokes, accountants can adjust accounts to include new data and create complicated reports. Tasks that had often required days necessitate only a few minutes of work. Programmers have expanded the concept of the spreadsheet to develop complex accounting programs that perform almost

Table 2. Intermediate purchases of selected commodities by industry divison of purchaser, 2000

[In billions]

Industry division of purchaser	All types of commodities	Total Services-Division commodities	Veterinary, landscaping, horticultural services	Business services		Miscellaneous, repairs	Engineering, management services		
				Total	Personnel supply		Total	Engineering, architectural services	Management, public-relations services
Mining	$88	$7	–	$2	$1	–	$3	$2	–
Construction	570	114	4	20	5	6	74	58	14
Manufacturing	2,702	251	2	127	17	19	35	9	12
Transport	287	58	–	20	5	2	10	1	5
Communications	196	67	–	20	3	3	13	6	2
Utilities	134	17	–	5	2	0	5	2	1
Wholesale trade	297	110	1	64	10	4	22	1	14
Retail trade	470	144	1	95	9	4	18	–	9
Finance	381	106	–	54	9	1	33	–	16
Insurance	190	45	–	17	3	0	9	–	6
Real estate	189	71	6	33	3	3	14	8	3
Services	1,242	519	5	205	37	13	150	13	65
Government enterprise	101	15	1	4	1	1	7	5	1

Dash indicates less than $500 million

SOURCE: Employment Projections, Bureau of Labor Statistics

every feature of accounting.[18] These advances have significantly reduced demand for accounting labor.

Consumer-oriented services. In numbers of employees, *healthcare* is by far the largest consumer-oriented industry in the division. Among employment gains in major industry groups of the services division, the healthcare increase was the second largest in simple magnitude. But because of the healthcare industry's enormous employment base, this great gain represents one of the smaller percentage increases. Although healthcare contributed the second-greatest number of new jobs to the services division, the industry's growth in percentage terms was well below that of the services division as a whole. Therefore, the proportion of services-division jobs that were in healthcare decreased slightly.

While increases in the elderly population and the invention of new treatments and diagnostic tools have added to demand, government and private efforts to control healthcare costs have prevented greater growth than otherwise would have occurred. Government, insurers, and employers have restricted healthcare payments through a vast number of changes to the rules governing coverage; furthermore, the Federal Government improved its policing of fraud and abuse in billings to Medicare.[19] These developments, by muting the growth of healthcare expenditures, contributed to the trend toward a smaller proportion of consumer-oriented employment and a greater proportion of business-oriented employment in the division.

Table 1 shows that job growth in *hospitals*, on a percentage basis, was relatively slow even compared with other healthcare industries. Because of hospitals' relatively slow pace of growth, hospital employment as a percentage of jobs in the services division declined to 10 percent from 13 percent. Three factors contributed to the relatively slow growth rate in hospitals. First, patients admitted to hospitals increasingly stayed for shorter periods or were treated on an outpatient basis. Second, hospitals progressively utilized outsourcing to reduce expenses. Third, changes in Medicare and Medicaid payments tightened hospital budgets.

Health maintenance organizations (HMOs) played an active role in shortening hospital stays and consequently reducing employment growth. As the costs of healthcare soared, HMOs grew in popularity by offering low premiums. As a result, the number of persons enrolled in HMO plans more than doubled between 1990 and 1999.[20] HMOs controlled costs in order to stay solvent; other types of plans also took measures to reduce their costs. One way in which HMOs addressed costs was by regulating, and thereby reducing, the number of days people spent in hospitals.

Between 1995 and 2000, increases in aggregate State and Federal hospital care expenditures for Medicare and Medicaid slowed markedly,[21] curbing a major source of hospital incomes. Federal initiatives such as those enacted under the Balanced Budget Act of 1997 enforced new guidelines to control Federal reimbursements to hospitals and other healthcare facilities. These changes tightened hospital budgets and slowed hiring of nurses and other staff.[22]

The increased utilization of outsourcing was a move toward greater efficiency in hospitals. Hospitals increasingly contracted services that fell outside their "strategic competencies." Housekeeping, food preparation, transcription, information technology services, and even surgeries outside of resident surgeons' specialties were progressively contracted to others outside the hospital industry. By outsourcing, hospitals took advantage of economies of scale available through other services companies.[23]

A large part of the hospital industry's growth can be attributed to the growth and aging of the U.S. population. From 1988 to 2000, those aged 75 years or more increased by 33 percent—more than two and one-half times the rate of increase of the general population![24] As people age, their utilization of health services increases. For example, in 1998, people aged 75 years and older averaged 3,031 days of hospital stay per 1,000 people, in non-institutional, short-term hospitals. That number of days is almost two times the average number for those aged 65 to 74, and more than five times the average number of days for the population as a whole.[25]

Outsourcing of various services, constraint of revenue from Medicare and other third-party payers, and the substitution of outpatient services for some inpatient business slowed growth in direct employment by hospitals. Despite the changing demographic composition of the United States, hospital employment growth totaled just 21 percent over the 12-year period. Cost-cutting policies also affected other healthcare industries, such as offices of physicians. Over the 12-year period, employment in healthcare as a whole increased 42 percent. This gain was well below that of the services division as a whole (59 percent), and was considerably less than half the percentage growth of business services (113 percent).

Among consumer-oriented major groups, *social services* ranked just below healthcare in the generation of more employment. Jobs in social services increased at the outstanding rate of 87 percent over the 12 years. Individual, family, and miscellaneous social services; daycare; and residential care facilities (homes for the elderly and others who are unable to live independently yet are not in need of nursing care) *each* gained more than a third of a million jobs. Job training and vocational rehabilitation added a lesser but still substantial 139,000 jobs.

Certain possible explanations for the growth of daycare and residential care—explanations that one might expect to be the major ones—account for surprisingly little of the growth. One factor contributing to the use of social services might be greater employment in general, leaving fewer persons free to

care for children or elderly relatives. But in fact, the proportion of the over-16-year-old noninstitutional population that was employed increased only slightly—to 64.5 percent from 62.3 percent—from 1988 to 2000.[26] Employment among mothers with 3- to 5-year-old children increased to 68 percent from 57 percent from 1988 to 2000, accounting for only some of the 100-percent increase in daycare employees. Changes in the population of young children also account for a small part of the gains in daycare employment. The resident population of 3- to 5-year-olds rose by only 4.3 percent from 1988 to 2000.

During that time, the ratio of daycare employees to the 3- to 5-year-old population nearly doubled, to 6.2 percent from 3.3 percent. Importantly, daycare became much more affordable during the period. Public and private initiatives including tax breaks like the Earned Income Credit and tax-free employer-provided dependent care in effect lowered the cost to parents.[27] State funding of preschool programs, including many run by privately owned entities, also contributed to the growth of the social services industry. New York and Georgia have legislated universally available preschool. In both States, funding goes to many private preschool programs.[28]

The population who are 75 years of age and older increased substantially, by 33 percent. Still, the 107-percent increase in *residential-care facility* employees must reflect other social changes as well. During the period, "assisted living" facilities became increasingly popular among the oldest demographic groups. Such facilities offer the elderly the freedom of living independently of relatives but provide assistance with tasks that are physically difficult, such as food preparation and cleaning. The mix of independence and convenience has made assisted living facilities extremely popular. In 1998, an estimated 75 percent of all construction for seniors consisted of assisted living units.[29]

Facilities that provide assisted living arrangement have been in existence for a long time, but only in recent years have they been widely operated as profit-making establishments. In the 1970s, nonprofit groups commonly maintained residential care facilities. Now for-profit companies operate an estimated 90 percent of assisted living establishments.[30]

A legal framework that accommodates seniors' desires to live in assisted living facilities is also taking shape. As of June 2000, 38 States were already reimbursing costs of assisted living or board and care through Medicaid or had approval to do so, and other States were in various stages of implementing similar funding structures. By reimbursing living costs, the governments indirectly increased demand for assisted living complexes.[31]

Private education added more than 750,000 jobs from 1988 to 2000, but those jobs represented just a 48-percent increase, relatively low compared with other services industries. The largest component of private education, colleges and universities, increased at the still lower rate of 32 percent. Anecdotal evidence indicates that enrollment was limited by the alternate opportunities presented by a favorable job market.[32] Also, rising costs of a college education have been cited as a factor that discourages enrollment.[33]

The gain of more than 700,000 jobs in *membership organizations* was primarily in religious organizations, which gained 619,000 jobs. Employment in religious organizations increased by 63 percent, a higher-than-average rate within the services division.

Employment in *amusements and recreation* increased by 77 percent over the period, considerably outperforming the services division as a whole. Many types of entertainment or recreation added large numbers of jobs, as shown in the following table:

	Increase in jobs, 1988 to 2000	
Industry	*Number*	*Percent*
Amusement and recreation not elsewhere classified[34]	206,000	129
Membership sports, recreation clubs	117,000	49
Physical fitness facilities	110,000	103
Public golf courses	89,000	255
Amusement parks	60,000	73
Producers, orchestras, entertainers	59,000	48
Coin-operated amusement devices	52,000	205

The separate, smaller, but arguably analogous industry *museums, zoos, and botanical gardens*[35] is similar in that it provides leisure-time activity. This small industry increased its employment at about the same rate as amusements and recreation. Both industries are likely to benefit from the overall population's increased disposable income, which normally encourages travel.[36] Americans had much more money to spend in 2000 compared with the late 80s. Real disposable personal income rose 37 percent in aggregate, or 22 percent per capita, during the 12-year period ending in 2000.[37]

Despite the various substantial increases in consumer-oriented employment, the 49-percent increase in combined consumer-oriented industries was far below the 88-percent increase in the division's business-serving industries. Yet the 49-percent increase in consumer-oriented industries was about twice the rate of increase in all nonfarm payroll employment (up 25 percent during the 12-year period).

Mixed services. Among the four industries serving personal demand and intermediate business demand fairly equally, only *motion pictures* grew faster in employment than did the services division in general. The motion-picture industry increased its employment by about 250,000 jobs or 74 percent. As the industry includes the making of television commercials and corporate training films in addition to feature films and television shows, 50 percent of the sales are to business demand. Film production is one of the industries that ben-

efited from the growth of computer technology. Demand for television advertising of websites was exceptionally strong late in the period, increasing the overall demand for television advertising.[38]

Employment in the three remaining mixed industries grew at rates lower than the average of the services division. The *automotive services* industry grew by a relatively low 50 percent. The remaining mixed industries—*legal services* and *lodging places*—grew 20 percent and 24 percent, respectively.

Extended hours. Although some factors stimulating growth were exclusive to a small cluster of industries, other factors undoubtedly influenced a large number of industries and drove the fast growth characteristic of most services in the late 1980s and through the 1990s. One such factor is the elongation of business hours. Establishments classified as services often win customers by marketing "convenience." One element of convenience in service industries is accessibility. To be more accessible, and therefore more attractive to clients, establishments are increasing their business hours and number of days per week of operation. These establishments operate on the premise that customers want to access services when their need or desire is most pressing. As a result, computer specialists work on call, childcare establishment are staying open late into the evening and on weekends, and temporary personnel work whenever the company contracting them needs their services to meet demand. As establishments increase their hours to become more accessible, employment in services increases.[39]

Government demand

Although consumer demand and intermediate demand from business together account for 99 percent of the sales of the services division's main activities, certain industries of the division serve government to a fair extent. Computer services and management and public relations services each sell more than 10 percent of their output to government final demand. (Final demand from the public sector excludes demand from government enterprises, which are public entities that sell a product or service. The Postal Service is a good example of a government enterprise.)

About two-thirds of the *computer services* sold to public-sector final demand were sold to the Federal Government as opposed to State and local governments. Yet increases in demand were concentrated in State and local governments, as shown in the tabulation below, showing purchases as percentages of output:

Year	*Federal Government*	*State and local government*
1988	14	5
2000	15	8

In 2000, *management and public relations services*, such as management consulting and contractual management of facilities, sold 11 percent of their output to government final demand, mainly to State and local governments. The percentage of output sold to government final demand was considerably reduced from 1988, as shown in the following tabulation:

Year	*Federal Government*	*State and local government*
1988	10	8
2000	3	9

By 2000, *engineering and architectural services* sold a vastly reduced portion of their output to the final demand of the Federal Government. The proportion of *engineering and architectural services* sold to government final demand was a net 6.0 percent in 1988 and a net 0.02 percent in 2000. A major factor in the reduction of Federal Government buying of engineering was the end of the Cold War and the consequent "peace dividend" or reduction in defense spending.[40] In 1988, defense bought 8 percent of engineering and architectural services; the defense share was reduced to 2 percent in 2000. Two of the three services industries discussed in this section, then, sold a considerably reduced portion of their output to government by 2000. The total percentage of commodities produced by the services division as a whole and sold to government final demand were greatly reduced. While 1.4 percent was sold to government final demand in 1988, in 2000 only 0.2 percent was.

International trade

International trade provided a small but increasing market for the output of the services division, providing further evidence of an increasingly international economy. From 1988 to 2000, international trade of commodities provided mainly by the division increased to 0.8 percent from 0.6 percent. Two commodities exhibited relatively high net sales of output to international markets. In each of the two services, net international sales remained a fairly small percentage of output but increased impressively from 1988 proportions.[41] The following tabulation shows net exports (exports less imports) as a percentage of industry output:

Year	*Motion pictures*	*Engineering, architectural services*
1988	9.8	3.3
2000	16.1	6.1

Conclusions and the future

Outsourcing and other flexible labor arrangements, constantly changing intelligent technology, and increased construction

activity, as well as strong general economic growth, powered the vast increases in business-oriented services. During the 12 years, jobs in business-oriented services increased at a much greater rate than those in consumer-oriented or mixed services. Businesses' willingness to invest in ever-advancing technology, then, has been one key factor. In addition to the Internet, frequently changing versions of internal business software and hardware and the making of more intelligent devices in general—including vehicles and home appliances—are relevant. Both the continuous acquisition of new technology and flexible labor arrangements portray the attitude of adapting to frequent change in the business environment, and thereby also contributing to frequent changes.

Despite the proportionately greater gains of business-oriented services, consumer-oriented services still, though barely, include a majority of the employment in services. Because of the greater scale of the consumer-oriented group of industries, its job increase in absolute terms slightly exceeded that of business-oriented services.

A number of the trends depict a society that is in some ways increasingly dedicated to future investment by means of both capital and increased effort. Business-oriented services—such as upgrading of software and intelligent machinery, services related to construction, and improvement of business processes with the aid of consultants—may all be interpreted as present investments for a wealthier future. The extension of business operating hours may be interpreted in the same way. Even two rapidly increasing social services, daycare and residential care, enable some people to work outside the home instead of caring for relatives, and to contribute to economic expansion.

Rapid growth of certain other industries, however, is of an opposite nature. Amusements and recreation; museums, zoos, and botanical gardens; and religious organizations grew rapidly and from the point of view of demand have little to do with building wealth for the future. At some point on the income scale, work may reach a point of diminishing returns for many individuals, perhaps limiting the number of two-income households or contributing to earlier retirements. The extension of the lifespan also has the effect of increasing the length of retirement and the number of retirees at a given point in time.

Whether the trends described in this paper continue, and to what extent, depends on a number of factors that cannot be predicted with confidence. The factors include, but are not limited to: the future popularity of the Internet—and perhaps of other, unforeseen technology—on the part of both the business community and the public; the future frequency of upgrades of software and other products; the need for workers per unit of output in an increasingly automated world in which even the creation of software and engineering is made more efficient by computer technology;[42] future healthcare policy; and family lifestyles as they affect demand for social services like daycare and elderly care. □

Notes

[1] Data representing employment as used in this article are from the Current Employment Statistics (CES) program, which surveys nearly 380,000 nonfarm employers monthly. For more information on the CES program's concepts and methodology, see *BLS Handbook of Methods*, Bulletin 2490 (Bureau of Labor Statistics, April 1997), chapter 2, pp. 15–31. These data are available on the Internet at **http://www.bls.gov/ceshome.htm**.

[2] Input-output data are prepared by the Bureau of Economic Analysis, U.S. Department of Commerce, and for purposes of labor issues are further processed by the Office of Employment Projections in the Bureau of Labor Statistics. The Office of Employment Projections provides projected figures for years not covered by Department of Commerce input-output tables. The input-output statistics used in this article are from Office of Employment Projections, BLS sources.

[3] The industry classifications used in this article, except for the assignment of business-oriented, consumer-oriented, or mixed status, are from the *Standard Industrial Classification Manual 1987* (Washington, DC: Executive Office of the President, Office of Management and Budget).

[4] The year 1988 was chosen as the starting point because several of the industries under study have time-series of employment starting in 1988. That year, fortunately, is a good choice because of its cyclical comparability to the ending point (2000). Both years were prosperous ones in well-established economic expansions.

[5] Marcello Estevao and Saul Lach, *The Evolution of the Demand for Temporary Help Supply Employment in the United States*, NBER Working Paper 7427 (Cambridge, MA, National Bureau of Economic Research, Dec. 1999).

[6] *Report on the American Workforce* (Washington, DC, U.S. Department of Labor, 1999), p. 22.

[7] Timothy W. Brogan, *Annual Analysis*, American Staffing Association, March 2000, on the Internet at **http://www.staffingtoday.net/staffstats/analysis99.htm**.

[8] *Report on the American Workforce*, p. 4.

[9] *Report on the American Workforce*, pp. 22–24; and Edward A. Lenz, *How Staffing Services Benefit Workers and the Economy*, American Staffing Association, March 15, 2000, on the Internet at **http://www.natss.org/staffstats/issuepapers1.htm**.

[10] See Angela Clinton, "Flexible labor: restructuring the American work force," *Monthly Labor Review*, Aug. 1997, pp. 3, 16.

[11] Employment by occupation and industry are from the Current Population Survey.

[12] In 1965, Gordon Moore, co-founder of Intel, observed that since the invention of the integrated circuit, or processing chip, the transistor capacity on chips had doubled every year. He predicted that this exponential trend would continue, and his theory was later dubbed Moore's Law. Though popular computing culture has altered Moore's Law to extend the period in which transistor capacity doubles to every 18 months, Moore was correct in predicting the rapid expansion of capacity. From Webopedia, *Definition: Moore's Law*, October 19, 2000,

on the Internet at **http://webpoedia.internet.com/term/m/moores_law.html**; and Intel.com home, on the Internet at **http://www.intel.com/research/silicon/mooreslaw.htm**.

[13] Jim Carlton, "Technology (A Special Report): The Technology—It Seems Like Yesterday: the PC has come a long way and quickly," *Wall Street Journal*, November 16, 1998.

[14] Carlton, "Technology (A Special Report) . . ."

[15] From 2000 "use" table from Employment Projections, Bureau of Labor Statistics.

[16] Use table, Employment Projections, Bureau of Labor Statistics.

[17] Excluding personnel supply itself because intraindustry sales are not readily interpretable in this context.

[18] Gary Seigel, "Counting More, Counting Less: The New Role of Management Accountants," *Strategic Finance*, November 1, 1999.

[19] Cynthia Engel, "Health Services Industry: Still a Job Machine?" *Monthly Labor Review*, March 1999, pp. 3–14.

[20] InterStudy Publications, Minneapolis, *The InterStudy Competitive Edge*, annual; also Bureau of the Census, *Statistical Abstract of the United States: 2000* (120th edition, Washington, DC, 2000), Chart 175.

[21] Health Care Financing Administration, "National Health Expenditures Table 5," on the Internet at **http://www.hcfa.gov/stats/nhe-oact/tables/t5.htm**.

[22] At the end of the 12-year period under study, specifically in December 2000, Federal healthcare payments to providers became more generous. Hiring in the healthcare industry, after increasing by only 1.6 percent in 2000, accelerated to a 3.0 percent annual rate in 2001 despite the general economic slowdown.

[23] Scott Hensley, "Survey Shows More Hospitals Turning to Outside Firms for a Broad Range of Services," *Modern Healthcare*, Jan. 13, 1997.

[24] Bureau of the Census, National Population Estimates found on the Internet at **http://www.census.gov/population/www/estimates/uspop.html**.

[25] National Center for Health Statistics, U.S. Department of Health and Human Services, *Vital and Health Statistics*, Series 13; and unpublished data; also *Statistical Abstract . . .2000*, Chart 199.

[26] Table A-1, "Employment status of the civilian non-institutional population 16 years and older, 1968 to date," *Employment and Earnings*, Jan. 2001, p. 9, on the Internet at **http://stats.bls.gov/pdf/cpsaa+1.pdf**.

[27] William Goodman, "Boom in Day Care Industry the Result of Many Social Changes," *Monthly Labor Review*, Aug. 1995, pp. 3–12.

[28] Linda Jacobson, "Plans for Universal Preschool gain Ground in New York State," *Education Week*, Oct. 25, 2000. See also the website of the Georgia Pre-K Program on the Internet at **http://www.osr.state.ga.us/whatisprek.html**.

[29] *Trends and Data: Aging Housing and Services Field*, American Association of Homes and Services for the Aging, 1999. Quoted at the American Association of Retired Persons, *Assisted Living in the United States*, on the Internet at **http://research.aarp.org/il/fs62r_assisted.html**.

[30] Linda A. Johnson, "Growth Continues at Fast Pace for Assisted Living Centers," *The Journal Record*, Nov. 25, 1998.

[31] Robert Mollica, *State Assisted Living Policy: 2000* (National Academy for State Health Policy, 2000).

[32] See for example Gregory St. Martin, "Boston U.: High schoolers skipping college for high tech jobs," *U-Wire*, April 13, 2000; and James Salzer, "College enrollment slows: Strong economy blamed for failure of some schools to meet targets," *The Atlanta Constitution*, May 11, 2000; and Carol Innerst, "College enrollment declines slightly, continuing trend; availability of jobs partly responsible," *The Washington Times*, Jan. 20, 1996, p. A3.

[33] Rene Sanchez, "Colleges Compete for Cost-Conscious Students; Tuition Deals Among Innovations That Seek Hedge Against Inflation," *The Washington Post*, Mar. 21, 1995, p. A1.

[34] "Amusement and recreation services not elsewhere classified" include a vast variety of establishments from aerial tramways to yoga instruction. Sports instruction of many kinds is included.

[35] Only privately owned zoos, museums, and botanical gardens are included in the category; publicly owned institutions are classified in the government division.

[36] The incidence of flying increases with income, according to Air Transport Association of America, *Air Travel Survey 1993*, 1994, p. III–14. Furthermore, the percentage of trips by airline that were taken for recreational purposes increased substantially from 1977 to 1997. (See *Air Travel Survey 1998*, 1998, p. V–5.)

[37] Disposable income statistics are from the Bureau of Economic Analysis, U. S. Department of Commerce, on the Internet at **http://www.bea.doc.gov/bea/dn/nipawebTableViewFixed.asp?SelectedTable=27&FirstYear=2000&LastYear=2001&Freq=Qtr** (visited Aug. 3, 2001).

[38] Skip Wollenberg, "Internet Advertising Tops $1 Billion," *Pittsburgh Post-Gazette*, Dec. 14, 1999.

[39] Roger Bull, "Open All Night In a 24-hour Economy," *The Florida Times-Union*, November 4, 1999; Rob Kirkbride, "After Midnight, Night Workers Propel the 24-hour Economy," *The Grand Rapids Press*, September 3, 2000; and Karen Robinson-Jacobs, "The Day-Care Night Shift Valley Network Offers Solutions to Parents Who Work Odd Hours," *Los Angeles Times*, September 27, 1998.

[40] See R.A. Ellis, *At the Crossroads: Crisis and Opportunity for American Engineers in the 1990's*, special edition of *Engineering Workforce Bulletin* (Washington: American Association of Engineering Societies, Inc.), Jan. 1994.

[41] From "FD–AGG" tables, Employment Projections, Bureau of Labor Statistics.

[42] R.A. Ellis, *At the Crossroads:...*

Employment in business services: a year of unprecedented decline

Falling employment in personnel services contributed to the greatest decline in employment in business services in the last 43 years; slowing of growth in computer services and job losses in miscellaneous business services played a smaller role

Rachel Krantz

After nearly a decade of unparalleled growth, the number of jobs in business services peaked in September 2000 and then began the steepest job loss in the 43-year history of the industry. In the 12 months between September 2000 and September 2001, employment in business services fell by 384,000, or 4 percent.[1]

The industries within business services were affected to varying degrees by the recent economic downturn, which was officially declared a recession halfway through the 12-month period covered in this article.[2] Thus, the employment decline in business services led the beginning of the recession by 6 months. Chart 1 shows the difference between the rate of change in employment from September 2000 to September 2001 and the average annual rate of change in employment from September 1995 to September 2000. With the exception of *miscellaneous equipment rental and leasing*, which showed almost no difference, all component industries were notably weak relative to their recent performance history. (For more industry details and data, see table 1.)

Two components of business services account for 59 percent of its employment: *personnel supply services* and *computer and data-processing services*. (See chart 2.) Since September 2000, these industries and (to a lesser extent) *advertising* were the weakest industries within business services. Another large industry, *miscellaneous business services*, also was weak relative to its recent past. (See chart 3.) This article examines employment trends over the last several years in these four industries and offers reasons for the varying degree of their vulnerability in the recent economic climate.

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Personnel supply services

As both the largest employer and the weakest component, personnel supply services has driven the recent job decline in business services. Employment in personnel supply services posted its largest annual decline in absolute terms, down 459,000, or 12 percent, between September 2000 and September 2001. Job losses were concentrated in *help supply services*, an industry that primarily provides temporary workers to other businesses. *Employment agencies*—the other component of personnel supply services, which includes intermediaries that match employers with employees—also showed job losses, but to a lesser degree. To better understand the concentration of job losses in personnel supply services, it is necessary to first understand industry employment trends in help supply services during the last few years.

The recent growth in temporary employment is best understood in the context of a competitive business environment: competition has forced

Chart 1. Difference in rates of change of employment in business services, September 2000–September 2001 and September 1995–September 2000

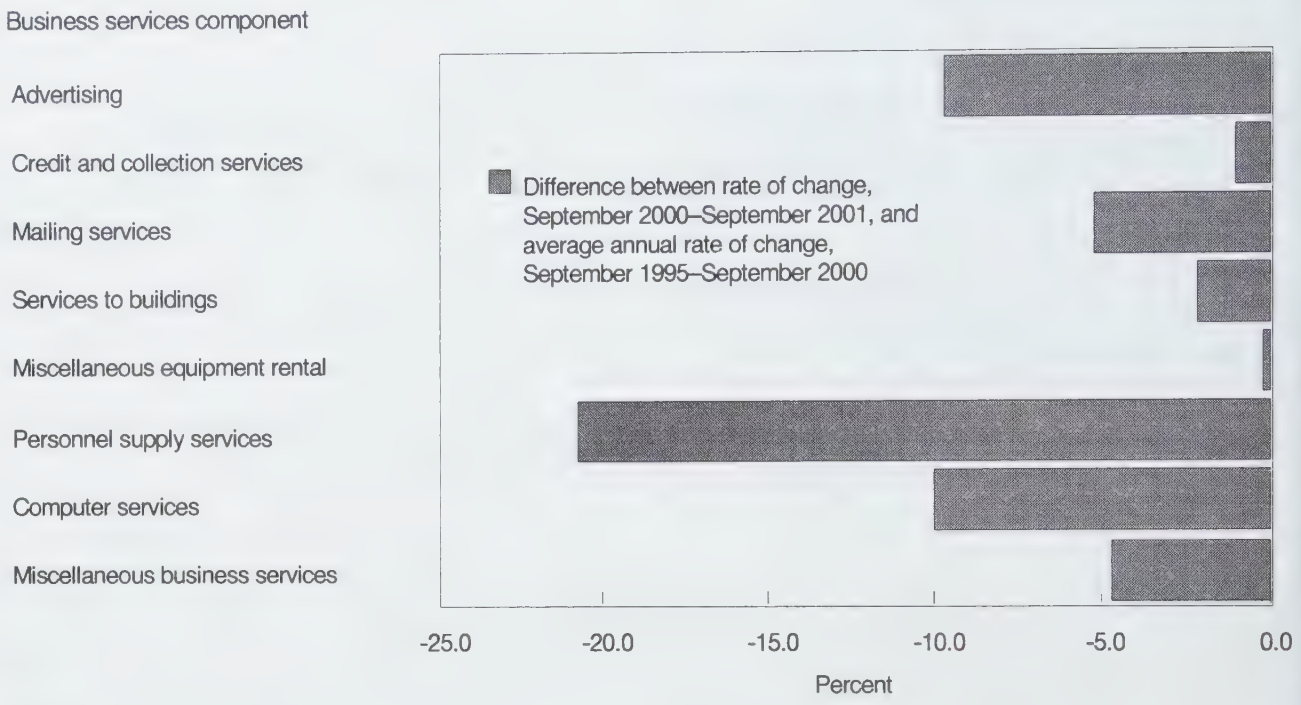


Table 1. Employment in business services and annual rates of change, selected years, seasonally adjusted

Industry	September 1995	September 2000	September 2001	Change, September 2000 to September 2001	Annual percent change		
					September 1995 to September 2000	September 2000 to September 2001	Difference
Total business services	6,957	9,965	9,581	–384	7.5	–3.9	–11.4
Advertising	235	305	292	–13	5.4	–4.3	–9.7
Credit reporting and collection services	123	160	167	7	5.4	4.4	–1.0
Mailing, reproduction, and stenographic services	281	328	321	–7	3.1	–2.1	–5.2
Services to buildings	888	995	997	2	2.3	.2	–2.1
Miscellaneous equipment rental and leasing	231	282	293	11	4.1	3.9	–.2
Personnel supply services	**2,544**	**3,947**	**3,488**	**–459**	**9.2**	**–11.6**	**–20.8**
Employment agencies	294	409	387	–22	6.8	–5.4	–12.2
Help supply services	**2,248**	**3,547**	**3,106**	**–441**	**9.6**	**–12.4**	**–22.0**
Computer and data-processing services[1]	1,122	2,124	2,200	76	13.6	3.6	–10.0
Computer-programming services	254	526	534	8	15.7	1.5	–14.2
Prepackaged software	187	308	322	14	10.5	4.5	–6.0
Computer integrated systems design	134	226	238	12	11.0	5.3	–5.7
Data processing and preparation	225	286	303	17	4.9	5.9	1.0
Information retrieval services and computer-related services, n.e.c.[2]	237	678	701	23	23.4	3.4	–20.0
Miscellaneous business services[1]	1,534	1,837	1,818	–19	3.7	–1.0	–4.7
Detective, guard, and armored car services	537	599	618	19	2.2	3.2	1.0
Security systems services	50	80	69	–11	9.9	–13.8	–23.7
Business services, n.e.c.[2]	860	1,068	1,041	–27	4.4	–2.5	–6.9

[1] Includes other industries not shown separately..

[2] n.e.c. = not elsewhere classified.

businesses to respond quickly and efficiently to their changing labor needs. Through the 1990s, businesses did this by contracting for more temporary workers and moving toward just-in-time labor practices. Businesses thereby created buffers of temporary employees, whose numbers they contracted and expanded to meet their labor demands while insulating permanent employees from economic fluctuations.[3]

The temporary-staffing industry rode this trend, growing at an annual rate of 12 percent in the period from just after the recession to September 2000. (See chart 4.) The expansionary trend was prominent in manufacturing, as well as in other industries. A study by Marcelo Estevão and Saul Lach estimates that temporary workers accounted for about 4 percent of the manufacturing sector's workforce in 1997, compared with only 1 percent in 1992.[4] Demand for professional staffing services also grew during this period, and firms increasingly specialized in providing temporary managerial, financial, and technical professionals to meet the demand.[5] By September 2000, when employment in help supply services was at its peak, temporary workers had become a regular fixture in many businesses.

Temporary employment began to fall in October 2000. Logically, temporary workers would be the first to lose their jobs during times of economic hardship, as well as the first hired during times of renewed, but uncertain, economic strength. Evidence supports this idea: Lewis M. Segal and Daniel G. Sullivan showed that, over the course of a business cycle, temporary help employment acts as a leading indicator in determining the movement of aggregate employment.[6] Thus, temporary job losses signaled economic weakness and raised the following questions: How well are the recent temporary job losses distributed across the economy? and To what extent do they reflect general economic weakness, as opposed to weakness in the manufacturing sector alone?

These questions are not easily answered. While today's temporary staff work across the economy, the percentage of temporary workers providing services to each sector is unknown. However, data from surveys taken in 1995 and 1997 indicate that about one-third of agency temporaries worked in the manufacturing sector.[7] The percentage of recent job losses of workers placed in the manufacturing sector by help supply services was of particular interest in early 2001, given that the sector experienced a severe downturn that affected the health of the national economy.

Employment in employment agencies, the other component of personnel supply services, peaked in November 2000 and fell 7 percent between then and September 2001. This decline reflected firms' diminished hiring activity, as well as a reduced demand for employee-employer matching intermediaries relative to the demand in the recent past, when unemployment rates across the Nation reached record lows. Not surprisingly, a decline in the help-wanted advertising index accompanied the drop in employment agencies' employment.[8]

Computer and data-processing services

Relative to their previous 5-year trends, the recent weakness in computer and data-processing services falls second to that of personnel supply services. (See chart 1.) Employment in computer and data-processing services continued to grow between September 2000 and September 2001, although at a greatly reduced rate compared with that of the previous few years. This industry accounts for 23 percent of employment in business services. Its recent slowing of growth, coupled with its size, identifies computer services as an important factor in business services' overall weakness. However, the weakness in computer services is misleading without knowledge of industry trends in the 1990s.

Beginning in the mid-1990s, expansion of the Internet fueled demand for computer services as companies scrambled to develop Web sites and network their computers. As the year 2000 approached, concerns about Y2K intensified demand for computer services. Employment in computer and data-processing services reflects this heightened demand: in 1994 through 1996, employment grew at an average annual rate of 13 percent; in 1997 through 1999, the average annual growth rate increased to 15 percent. Perhaps because of the extensive preparations, the year 2000 arrived without the accompanying computer glitches many had feared, and employment growth slowed to 8 percent for the year. The industry slowdown continued in 2001, as business investment receded. Employment in computer services declined to a 2 percent annual growth rate during the first 9 months of 2001.

The computer and data-processing services industry is subdivided into nine more specific industries. Several are worth noting because of their contribution to the change in trend. Between September 2000 and September 2001, information retrieval services and computer-related services, not elsewhere classified, together formed one of computer services' weakest components.[9] Computer-programming services and prepackaged software also were weak. (See chart 5.)

The combined industries of *information retrieval services* and *computer-related services, not elsewhere classified*, were the 1990s' growth engine in computer services. Employment in these industries grew at an annual rate of 25 percent in 1996 through 1999, slowed to 11 percent in 2000, and slowed further, to an annual rate of 2 percent in the first 9 months of 2001. Late 1990s employment growth in the two industries clearly reflects both expansion of the Internet and concerns regarding Y2K. As the popularity of the Internet exploded, companies offering access to various kinds of information and database sources harnessed the Internet's potential as a natural

Chart 2. Distribution of employment in business services, September 2001

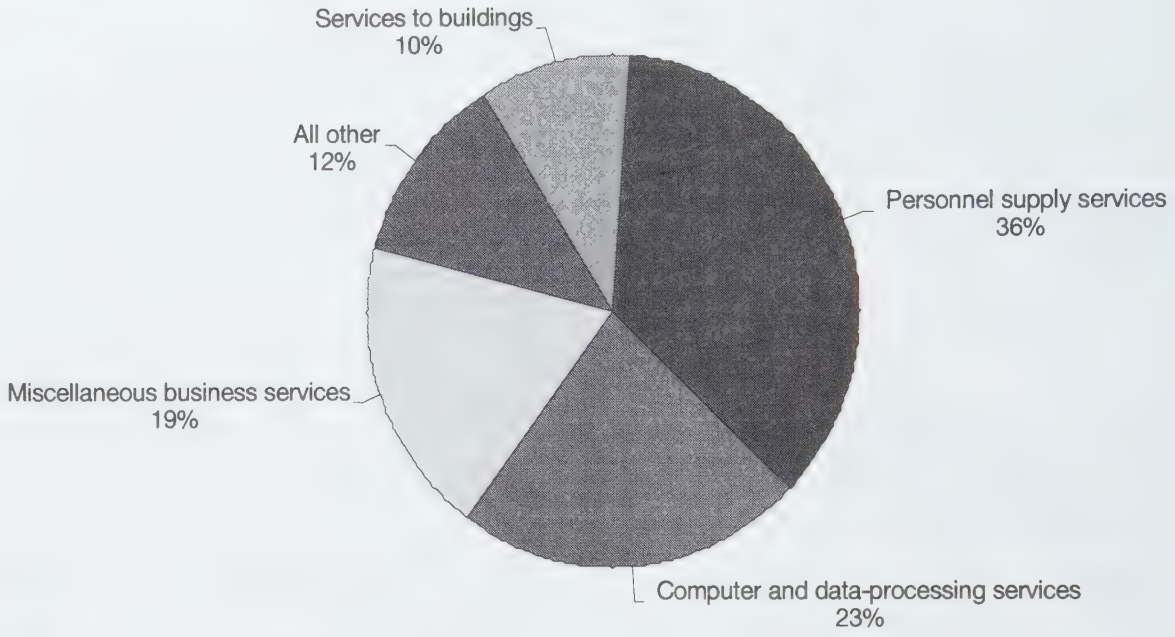


Chart 3. Employment in selected business services industries, 1988–2001

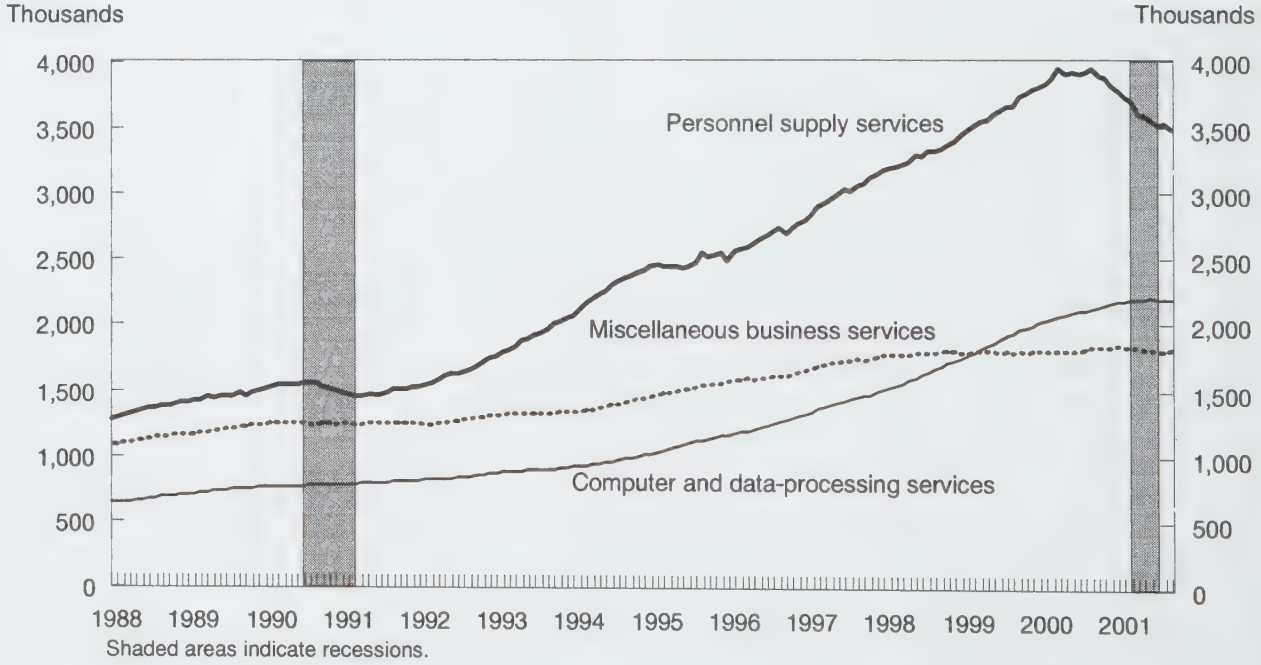
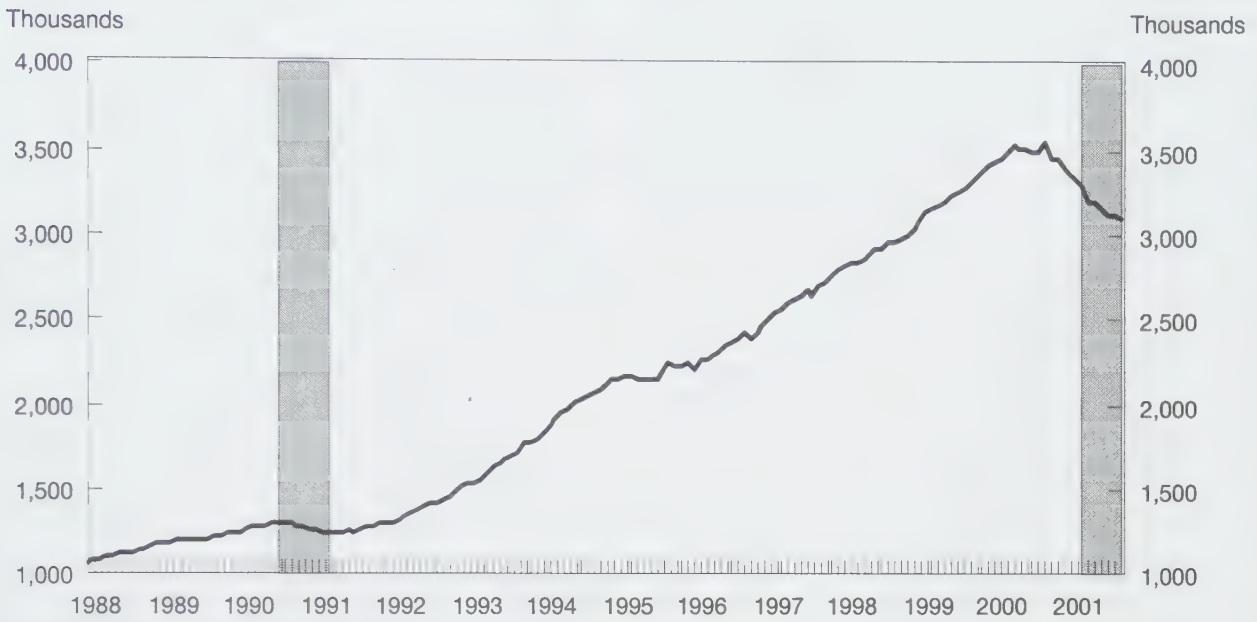
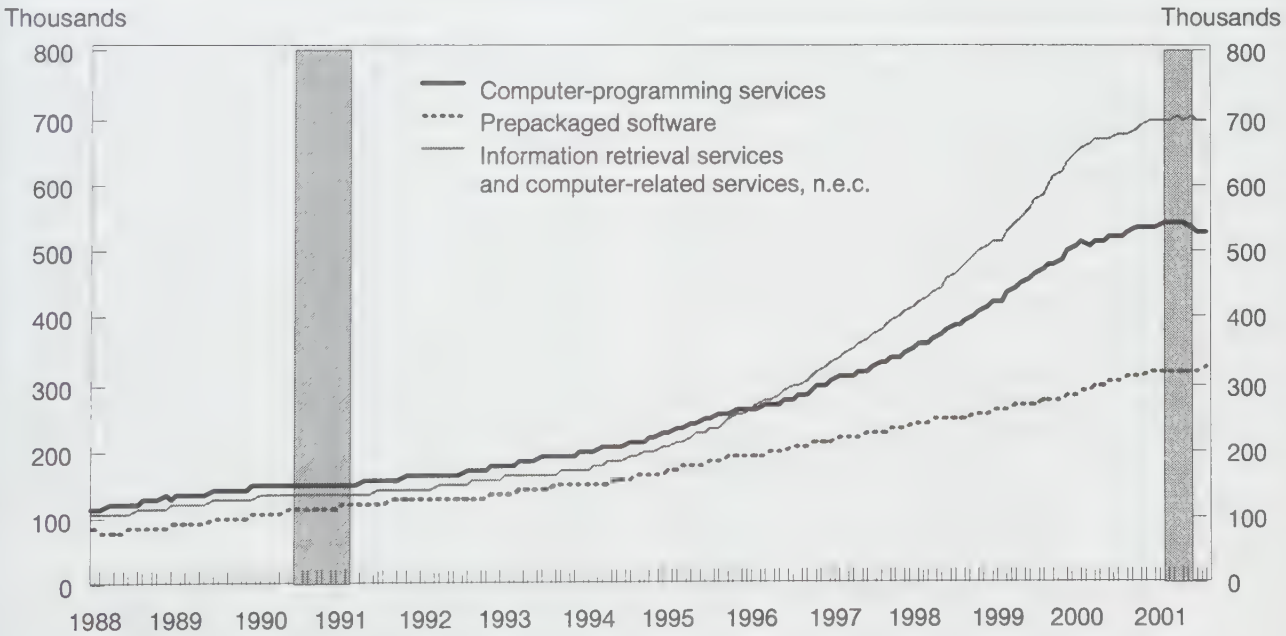


Chart 4. Employment in help supply services, 1988–2001



Shaded areas indicate recessions.

Chart 5. Employment in selected computer and data-processing services, 1988–2001



Shaded areas indicate recessions.

vehicle of information exchange and market expansion. Accomplishing this feat required consultants or in-house experts capable of integrating Internet portal systems with businesses' existing systems. Similarly, Y2K concerns generated additional demand for the services of computer consultants (which are a part of computer services, not elsewhere classified). The successful passing of the Y2K event and the beginning of the economic downturn both contributed to the stark slowdown in demand for computer consultants and Internet services.

On average, *computer-programming services* experienced double-digit rates of employment growth from 1993 to 2000, reaching a high of 20 percent in 1998. The industry continued to expand through April 2001, and then, between April and September 2001, it contracted at a 6 percent annual rate. The approach of the new millennium generated unprecedented demand for computer-programming services, as companies hurried to adapt their software to prevent dating problems associated with the year 2000. Since the arrival of the new millennium and the slowing of the economy, demand for computer-programming services has waned relative to its recent record levels.

Employment growth in *prepackaged software* slowed from an annual rate of 12 percent in the 12 months ending September 2000 to 5 percent in the 12 months ending September 2001. The slowdown is undoubtedly linked to businesses' cutbacks in spending on technology in light of their large Y2K technology investments and a weakening economy. Household purchases, too, played an important role in reduced demand for software. As computer technology improved markedly during the 1990s and prices fell, personal-computer markets expanded steadily. Whereas only 22 percent of households had personal computers in 1990, 58 percent had them by 2000.[10] Increasing demand for new software accompanied this growth in computer sales, until demand for both products slowed in late 2000. The slowing economy certainly deterred some households from purchasing a personal computer; however, it is also likely that most households which wanted and could afford a computer had already purchased one.

Despite the slowdown in computer services, it was not until July 2001 that the industry lost jobs. The losses continued, and computer services recorded a net employment decline for the third quarter. This contraction followed decelerating growth in the first and second quarters and contrasts with industry growth over more than a decade, a period that includes the recession of the early 1990s. At that time, employment growth in computer services slowed, but did not contract.

Miscellaneous business services

As the third-largest component within business services, and one that has shown recent weakness, miscellaneous business services experienced job losses that were an important factor in the broader industry's recent decline. Chart 6 shows miscellaneous business services' major components and their relative sizes.

The diverse industry category *business services, not elsewhere classified*, the majority employer within miscellaneous business services and one that has shown recent weakness, accounted for most of the job losses in the broader series. This industry includes establishments such as telemarketing firms, convention bureaus and decorators, and inventorying services firms. It is difficult to know which of the various types of businesses in the industry drove job losses, although the recession and associated cutbacks in business travel would have slowed demand for many services.

Security systems services showed the greatest relative weakening within miscellaneous business services during the year ended September 2001. However, this industry, which monitors and maintains fire and burglar alarms, accounts for less than 4 percent of employment in miscellaneous business services.

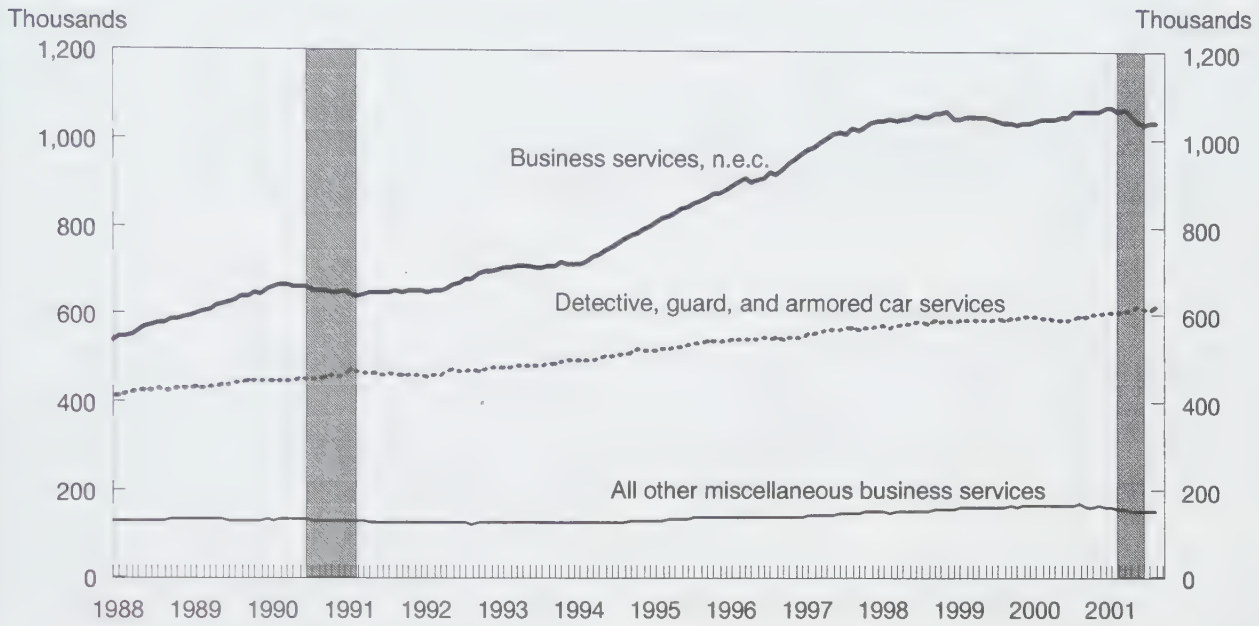
In stark contrast to all other components of miscellaneous business services, *detective, guard, and armored car services* continued to add jobs throughout the September 2000–01 period. Growth accelerated sharply in the fourth quarter of 2001, as businesses responded to the September 11 terrorist attacks with expanded security measures.

Advertising

Although advertising accounts for only 3 percent of business services employment, its recent slowing of growth and contraction rank it among the industry's weakest components. (See chart 1.) Internet, print, radio, and television advertising were all affected as businesses across the economy slashed their advertising budgets. Recent cutbacks in print advertising contrast with 2000, when dot-coms, technology companies, and financial companies spent freely on advertising.[11] While employment in advertising grew at an average annual rate of 3.2 percent between the 1990–91 recession and the industry's September 2000 peak, it shrank at an annual rate of 2.6 percent in the first half of 2001. (See chart 7.) During that 6-month period, spending on advertising fell 6 percent below its 2000 level.[12] Reduced employment in advertising parallels job losses in printing and publishing, as well as in paper and allied products manufacturing.

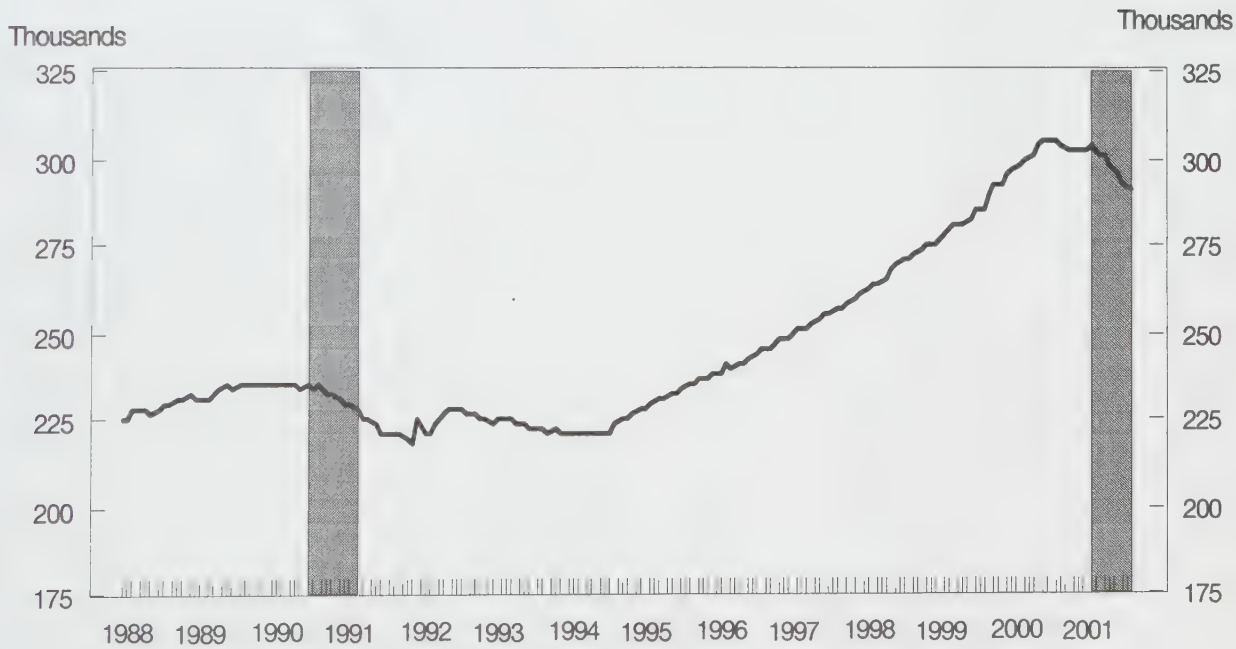
WHILE THE MAJORITY OF BUSINESS SERVICES' JOB LOSSES between September 2000 and September 2001 are traceable to falling employment in personnel supply services, three other components also contributed to the industry's weakness during that period. Miscellaneous business services and advertising each lost jobs, and computer and data-processing services

Chart 6. Employment in miscellaneous business servcies industries, 1988–2001



Shaded areas indicate recessions.

Chart 7. Employment in advertising, 1988–2001



Shaded areas indicate recessions.

showed sharply slower job growth. Employment trends in these industries reflect the weakening business environment, which led businesses to trim their temporary staffs, cut advertising expenses, and curtail investments in information technology.

The 1990s brought growth in the employment of temporary workers, as well as a technology boom and preparations related to Y2K fears. The first of these factors, coupled with the difficulty of measuring job losses among temporary workers by economic sector, means that it is difficult to know how many job losses in help supply services are directly related to the manufacturing sector's decline and how many are due to general economic weakness. In addition, although employment growth in computer and data-processing services has slowed recently, this is not surprising, considering the late 1990s' unprecedented demand for computer services generated by Y2K preparations and a rapid expansion of the Internet.

NOTES

[1] The figures are from the Current Employment Statistics (CES) program of the Bureau of Labor Statistics. The program produces estimates of all employees on nonfarm payrolls, except in private households, based on a monthly survey of about 300,000 worksites. Data from the survey appear in the Bureau's monthly periodical *Employment and Earnings*. CES data in this article are seasonally adjusted unless otherwise indicated.

[2] In November 2001, the National Bureau of Economic Research (NBER) announced that the recession had begun in March 2001. (See NBER report, on the Internet at **http://www.nber.org/cycles/recessions.html** (visited Jan. 3, 2002).

[3] See Katherine Abraham, "The Role of Flexible Staffing Arrangements in Short Term Workforce Adjustment Strategies," in Robert Hart, ed., *Employment, Unemployment and Hours of Work* (London: George Allen and Unwin, 1998); and *Report on the American Workforce* (U.S. Department of Labor, 1999), pp. 18–24.

[4] Marcelo Estevão and Saul Lach, "The Evolution of the Demand for Temporary Help Supply Employment in the United States," NBER working paper no. w7427, December 1999.

[5] Rick Melchionno, "The changing temporary work force: Managerial, professional, and technical workers in the personnel supply services industry," *Occupational Outlook Quarterly*, Spring 1999, pp. 24–32.

[6] Lewis M. Segal and Daniel G. Sullivan, "The temporary labor force," *Economic Perspectives*, March 1, 1995, pp. 2–19.

[7] Anne Polivka, "Tables: An Examination of CPS Data on Flexible Staffing Arrangements," paper presented at the National Labor Market Information Conference, Missoula, Montana, May 2000.

[8] See "Help-Wanted Index Drops 5 Points," *The Business Knowledge Network* (The Conference Board, Sept. 27, 2001); on the Internet at **http://www.conference-board.org/search/dpress.cfm?pressid=4663** (visited Oct. 4, 2001).

[9] For the purposes of this analysis, and due to the 1999 reclassification of many establishments from *computer-related services, not elsewhere classified*, to *information retrieval systems*, it makes sense to sum these employment series.

[10] Greg Ip, "Sated, Will Consumers Hurt the Economy?" *The Wall Street Journal*, June 11, 2001.

[11] Lucia Moses, "Danger signs popping up across the country," *Editor & Publisher*, March 12, 2001, pp. 7–8.

[12] "Sucked into quicksand," *The Economist*, Oct. 27, 2001, pp. 59–60.

Utilization of labor resources in Japan and the United States

On the basis of U.S. definitions, Japan's unemployment rate surpassed the U.S. rate for the first time in 2000; expanded measures show a much greater gap between the two countries' underutilization rates

Toshihiko Yamagami

Studies comparing unemployment rates in the United States and Japan on the basis of pre-1994 U.S. definitions and concepts of unemployment have engendered considerable debate concerning procedures for adjusting the rates for comparability across national boundaries. The debate can be boiled down into the following two points: (1) Japan's official unemployment rate was being understated because the Japanese definition of unemployment was quite different from those of other developed countries. (2) Japan's expanded unemployment rate, in which the scope of unemployment was enlarged to include other forms of labor underutilization, was relatively high among developed countries, compared with its low official unemployment rates.

In opposition to the first argument, many labor economists asserted that Japan's official unemployment rate was changed only slightly by adjustments based on U.S. definitions and concepts and that the rate was well below the U.S. official unemployment rate even after the adjustment. These same economists agreed, however, with the second argument and recognized that Japan's labor market was not as efficient as the official unemployment rate indicated. The reason for this gap, they maintained, was the existence of a relatively large degree of slack in the labor pool, consisting of workers who were pushed into hidden unemployment during recessions (for example, discouraged workers).

During the decade of the 1990s, economic conditions in both the United States and Japan changed dramatically. At the beginning of 2001, the U.S. economy had experienced a long-term expansion that began in March 1991,[1] and the official unemployment rate had fallen during that period, to just over 4 percent. By contrast, Japan's economy has experienced an extended downturn since 1991, when the asset bubble burst,[2] and although it underwent a small cyclical upturn from 1994 to 1997, it again turned downward from 1997 to 1999.[3] It is often said that this long-term recession was caused by the fall of real-estate and stock prices and a reduction in lending by financial institutions.

Japan's official unemployment rate has soared during the same period. At the beginning of 2001, it was approaching 5 percent, a figure higher than the official U.S. unemployment rate at the time.

Reflecting the long-term downturn of Japan's economy, "restructuring" within Japanese industries has brought higher unemployment, especially among white-collar workers.[4] Some Japanese economists argue that the country's well-known "long-term employment system"[5] can no longer be sustained and that job security went by the wayside during the past decade.

Still, no rigorous comparison has been made of unemployment rates in these countries on the

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basis of the 1994 revisions to U.S. definitions and concepts. It may be that changes in the U.S. definition of unemployment will have a large impact on the comparison. Furthermore, the U.S. definitions of the expanded measures of unemployment, U–1 through U–6, were changed in 1995, and no comparisons have been made on the basis of these new concepts. The analysis presented in this article builds upon earlier work by Constance Sorrentino published in the *Review*; a synopsis of Sorrentino's findings for the pre-1994 period is given in the appendix.

In this article, data used in both countries are described, and a brief outline of the revisions to the U.S. Current Population Survey (CPS) is given. Next, Japan's unemployment rates (including expanded ones) are adjusted to conform with current U.S. definitions and concepts, and the U.S. and Japanese rates are compared. Finally, the underutilization of Japan's labor resources and its implications on the structure of the labor market are examined.

Data resources and CPS revisions

Official unemployment rate. In the United States, the official unemployment rate is reported every month by the Bureau of Labor Statistics, based on data collected in the CPS.[6] The latest revisions to the CPS were carried out in 1994.[7] The revisions introduced had only a minor impact on the U.S. unemployment rate, even though some definitions, the questionnaires, and the data collection methods were revised markedly. Both the former and current definitions of unemployment are shown in exhibit 1.

In Japan, the official unemployment rate is reported every month in the Labor Force Survey (hereafter, "Regular Survey") conducted monthly by the Statistics Bureau of the Ministry of Public Management, Home Affairs, Posts and Telecommunications.[8] The official definition of unemployment in Japan also is shown in exhibit 1.

Two methods of adjustment might be used to compare official unemployment rates in the United States and Japan. In one, Japan's official unemployment rate would be adjusted to match the U.S. definitions and concepts; in the other, the U.S. official unemployment rate would be adjusted to match Japan's. The latter adjustment, however, is not possible.

The Japanese Regular Survey's questionnaire is not a parallel of the CPS survey and is not sufficient to adjust Japan's official unemployment rate to U.S. definitions and concepts. Therefore, the results of the Regular Survey do not facilitate any meaningful comparison. Accordingly, to adjust the Japanese unemployment rate to U.S. Concepts, it is necessary to use data from the Special Survey of the Labor Force Survey (hereafter, the "Special Survey"), conducted in February and August every year by the Statistics Bureau.[9] The Special Survey complements the Regular Survey by interviewing persons outside the labor force and provides more detailed information on their desire to work, reasons for giving up their job search, and past jobseeking activities.

Many labor economists used to worry that the results for February might not match those for another month, because February is on the near end of both the Japanese fiscal year and the country's school year. It is possible to adjust Japan's unemployment rates for August by using data from the Special Surveys of 1999 and 2000, so, at least for those years, the results of February and August can be compared.[10] Such a comparison indicates that no serious differences exist. Therefore, the February results are just as valid as the August ones, and they are used in this analysis.[11]

In contrast, it is impossible to adjust the official U.S. unemployment rate to Japan's definitions and concepts. In order to make such an adjustment, more detailed questions concerning jobseeking activities by unemployed persons in the most recent week and past job applications by persons outside the labor force would need to be added to the CPS questionnaire.

Supplementary unemployment rates. In the United States, in addition to the official unemployment rate, supplementary measures of labor underutilization are constructed regularly on the basis of the CPS. These measures, originally labeled U–1 through U–7, were reported every quarter from 1976 through 1993. U–6 takes account of persons working part time for economic reasons, while U–7 encompasses discouraged workers. Their content is shown in exhibit A–1 in the appendix.[12]

The seven alternative measures were replaced by six (U–1 through U–6) in October 1995. These six measures are reported every month in the CPS results. Their content is shown in exhibit 2.[13] Only U–3 through U–6 are considered in this article. U–3 is the official U.S. unemployment rate, while U–4, U–5, and U–6 successively add discouraged workers, all other "marginally attached" workers, and persons working part time for economic reasons.

Under the 1994 CPS revision, the definition of "discouraged workers" was changed, and a new concept of workers "marginally attached" to the labor force was introduced. The former and current definitions of "discouraged workers" are presented in exhibit 3, as is the definition of "marginally attached workers."

In Japan, supplementary measures of unemployment rates such as U–1 through U–6 are not reported regularly or officially in either the Regular Survey or the Special Survey, because the concepts of discouraged workers, marginally attached workers, and persons working part time for economic reasons are not used officially.

Discouraged workers (added at U–4). According to the earlier definition, discouraged workers were persons outside

Exhibit 1. Comparison of definitions and concepts of official unemployment in the United States and Japan

United States	Japan
Definitions and concepts before 1994 CPS revision: Persons who are not working, but who are currently available for work and who actively sought a job within the last 4 weeks Persons who are on layoff Persons who are waiting to start a new job within 30 days and are currently available for work	Persons who are not working at all in the reference week, but who are currently available for work and who actively sought a job in the reference week Persons who are awaiting evaulation of previous employment applications
Definitions and concepts after 1994 CPS revision: Persons who are not working, but who are currently available for work and who actively sought a job within the last 4 weeks, including persons who are waiting to start a new job within 30 days and who have searched for work within the last 4 weeks. Persons who are on layoff	

SOURCE: U.S. information from Sharon R. Cohany, Anne E. Polivka, and Jennifer M. Rothgeb, "Revisions in the Current Population Survey Effective January 1994," *Employment and Earnings*, January 1994, pp. 13–35; Japanese information from Labor Force Survey, Statistics Bureau, Tokyo.

Exhibit 2. Alternative measures of unemployment and other forms of labor resource underutilization, U–1 through U–6

Rate	Definition	Rate	Definition
U–1	Long-duration unemployment rate: Persons unemployed 15 or more weeks ÷ civilian labor force	U–5	Rate adding marginally attached workers: Total unemployed persons + discouraged workers + all other marginally attached workers ÷ civilian labor force + all marginally attached workers
U–2	Job loser rate: Job losers + persons who completed temporary jobs ÷ civilian labor force	U–6	Rate encompassing persons working part time for economic reasons: Total unemployed persons + all marginally attached workers + persons working part time for economic reasons ÷ civilian labor force + all marginally attached workers
U–3	Official unemployment rate: Total unemployed persons ÷ civilian labor force		
U–4	Rate adding discouraged workers: Total unemployed persons + discouraged workers ÷ civilian labor force + discouraged workers		

SOURCE: John E. Bregger and Steven E. Haugen, "BLS introduces new range of alternative unemployment measures," *Monthly Labor Review*, October 1995, pp. 19–26.

the labor force who wanted to work and who gave market-related reasons for giving up their job search; their availability for a job was presupposed. Many, however, criticized this definition. The most frequent criticism was that measuring the number of discouraged workers involves subjective criteria. In other words, one's desire for work and one's perceptions of the chance of finding a job are subjective matters and depend on the respondent's state of mind.[14] The critics doubted that all discouraged workers were strongly attached to the labor market.[15]

The objective in changing the definition of "discouraged workers" was to lessen the subjectivity and arbitrariness of the measure. Under the new definition, for persons to be classified as discouraged, they must state explicitly that they are currently available for work, and they must have engaged in some job search activities within the past year. In addition, they must more explicitly satisfy the conditions required in the former definition. To confirm whether a person outside the labor force who desires work is currently available for a

Exhibit 3. Comparison of former and current definitions of expanded unemployment

Category	Former definition	Current definition
Discouraged workers	Persons who are not currently looking for a job because they feel that their search would be in vain, based on the following job-market-related reasons (believes no work available in line of work or geographical area; could not find any work; lacks necessary schooling, training, skills, or experience; employer thinks applicant is too young or too old; other typical discrimination) and who want and are available for work	Persons who are not currently looking for a job because they feel that their search would be in vain, based on the following job-market-related reasons (believes no work available in line of work or geographical area; could not find any work; lacks necessary schooling, training, skills, or experience; employer thinks applicant is too young or too old; other typical discrimination), who explicitly want and are currently available for work, and who have searched for work in the previous year (except the previous 4 weeks)
Marginally attached workers	None	Discouraged workers, plus other marginally attached workers, defined as persons who are not currently looking for a job because they feel that their search would be in vain, based on the following other-than-job-market-related reasons (reasons such as child care problems, family responsibilities, and transportation problems), who explicitly want and are currently available for work, and who have searched for work in the previous year (except the previous 4 weeks)

SOURCE: Sharon R. Cohany, Anne E. Polivka, and Jennifer M. Rothgeb, "Revisions in the Current Population Survey Effective January 1994," *Employment and Earnings*, January 1994, pp. 13–35.

job, the person is asked, "Last week, could you have started a job if one had been offered?" Formerly, the person's availability was inferred from responses to other questions.

The impact of the revisions on estimates of the number and nature of discouraged workers was quite large. The estimated number of discouraged workers was reduced by approximately half, and the individuals remaining were judged to be those more closely attached to the labor market.[16]

Marginally attached workers (added at U–5). Discouraged workers are a subset of a larger group of workers who are not in the labor force, but who are considered marginally attached to the labor market. This larger group, described simply as "marginally attached workers," consists of persons outside the labor force who desire to work, who are currently available for a job, who have searched for a job in the past year, and who give either job market-related reasons or other reasons (such as the unavailability of child care) for abandoning their job search.

Part time for economic reasons (added at U–6). Before the 1994 CPS revisions, for part-time workers to be classified as persons working part time for economic reasons, they had to be deemed desirous of, and currently available for, full-time work, but without having had any explicit test of either their desire or their availability for work. After the revisions, it became possible to test these individuals' desire and availability for work explicitly with a redesigned questionnaire. The objective of such explicit testing is to minimize the subjectivity and arbitrariness of the measure.

For part-time workers to be classified as persons working part time for economic reasons, they must state their reasons for working part time, such as slack work, slower business, or an inability to find full-time work. In addition to answering this question, they are asked the following question about their desire and current availability for full-time work: "Last week, could you have worked full time if the hours had been available?" It is reported that, as a result of the revisions, estimates of the number of persons working part time for economic reasons were reduced by approximately 20 percent.[17]

Adjustment procedures

Because of differences in the two surveys, Japan's official unemployment rate must be adjusted to match current U.S. definitions and concepts. For example, in a procedural difference, the Japanese survey is conveyed to the respondent as a self-administered questionnaire, whereas the U.S. survey is presented in an interview format, with the surveyor questioning the respondent and recording the answers elicited. This difference manifests itself in, among other things, different conceptions of the respondent's availability for work. Adjustment takes account of this disparity, as well as other significant definitional differences.

Inactive jobseekers. In Japan, some unemployed persons would not be counted as such under U.S. concepts. Of unemployed persons awaiting evaluation of their job applications, those who submitted their applications within the previous 4 weeks are classified as unemployed under the current U.S. definitions and concepts. Unemployed persons in Japan who are awaiting evaluation of job applications submitted more than 4 weeks previously are considered "inactive jobseekers" by U.S. definitions and should be subtracted from reported official unemployment. This adjustment can be made.

Jobseekers not in the labor force. In Japan, some persons classified as not in the labor force are found, under further questioning in the February survey, to be currently available for work and to have sought a job in the previous 2 to 4 weeks. Although enumerated as "not in the labor force," these individuals should be added to reported official unemployment for comparability with U.S. concepts. For the purposes of this article, these individuals are collectively called "jobseekers not in the labor force." However, persons who meet the conditions for being classified as jobseekers not in the labor force, but who are not looking for work because they are homemakers or are attending school, must be excluded from the category on the grounds that they are not currently available for work. This adjustment can be made.

Persons waiting to start a new job within 30 days. In addition to the preceding adjustments, persons waiting to start a new job within 30 days, who are currently available for a job, and who have searched for work within the previous 4 weeks must be added to reported official Japanese unemployment for comparability with U.S. concepts from 1994 onward. (Prior to 1994, this group also was considered to be unemployed in the United States, but without the jobseeking requirement.)

However, recent school graduates who are waiting to start a new job must be excluded from the category, because they have been promised that they will start a new job on April 1. The Japanese would find it strange to consider these persons representative of an underutilization of labor resources.

In the Special Survey, persons waiting to start a new job within 30 days are classified as persons outside the labor force and are surveyed separately from other persons outside the labor force. Accordingly, the category of "jobseekers not in the labor force" also does not include persons waiting to start a new job within 30 days, who are currently available for a job, and who have searched for work within the past 4 weeks.

Through 1993, the Special Survey did not ask persons waiting to start a new job within 30 days about their current availability for a job and their job search activities within the previous 4 weeks. A redesign of the questionnaire and tabulation was introduced into the Special Survey in 1994. Since then, persons waiting to start a new job within 30 days have been asked about their current job availability. However, they are not asked about their job search activities in the previous 4 weeks. Therefore, the survey cannot yield the exact number of individuals classified as persons waiting to start a new job within 30 days, who are not recent graduates, who are currently available for a job, and who have searched for work within the previous 4 weeks. (Individuals with these characteristics would be counted as unemployed under U.S. concepts.)

One compromise solution to this problem is to classify all persons who are waiting to start a new job within 30 days, who are not recent graduates, and who are currently available for work as unemployed.[18] This article unavoidably employs such a classification, adding all these persons to the adjusted unemployed. Accordingly, the adjusted Japanese unemployment figure, undoubtedly, is overestimated to a slight degree.

Layoff. In the United States, persons who are on layoff are classified as unemployed. In contrast, in Japan, those laid off are not considered to be unemployed; instead, they are classified as employed—with a job, but not at work.

In Japan, during recessions, if a reduction in operations is necessary, Japanese firms sometimes put employees on a sort of temporary leave in order to reduce working hours. Such absentees remain on the payroll, but usually do not receive their full salary. Most of these employees believe that they will return to work.

Temporary absentees cannot be considered unemployed in Japan, because they are still strongly attached to their job; thus it is not appropriate to classify them as unemployed in this article.[19]

Current job availability. In the Japanese Special Survey, prior to 1995, persons classified as unemployed were tested only implicitly on their current job availability. The instructions for filling in the questionnaire, but not the questions themselves, asked persons classified as unemployed to confirm their current job availability. Since 1995, persons classified as unemployed have been tested explicitly on their current job availability. Therefore, from at least that year, Japan's official unemployment might not be overestimated on this point.

Job search method. In the United States, in the CPS, persons who answer or place newspaper ads, visit employment offices or businesses, call a firm to inquire about a position, send job applications, or ask friends or family members for job leads are considered to have engaged in an active job search activity and, if they meet the other requisite criteria, are classified as unemployed. Persons who merely read classified advertisements in the newspaper are considered to have engaged in a passive job search activity and are, consequently, not classified as unemployed.[20]

In Japan, in the Special Survey, respondents select from among the following items to characterize their job search activities:

(a) Applying to a public employment security office or a private employment office
(b) Examining advertisements or magazines on job vacancies
(c) Finding out [about jobs] through school or from acquaintances
(d) Applying to a prospective employer directly
(e) Preparing to start a business
(f) Other

Items (a), (c), (d), and (e) are classified as active job search methods. Items (b) and (f), however, are ambiguous: whether they are active or passive seems to depend on whether an overt action has been taken. Therefore, on this score, Japan's official unemployment rate and the adjusted rate may be overestimated.

Labor force. In addition to adjusting official unemployment data, it is necessary to adjust Japan's labor force estimates, as reported in the Special Survey, according to U.S. definitions and concepts. The reason for this adjustment is that the labor force figure is used as the denominator in unemployment rate calculations. Adjusting the Japanese labor force estimates requires unpaid family workers working fewer than 15 hours per week[21] and members of the Self-Defense Forces[22] to be subtracted from the reported labor force figures. Inactive jobseekers also must be subtracted from those estimates, and jobseekers not in the labor force must be added. The number of persons waiting to start a new job within 30 days who are currently available for work, except for recent graduates, is added as well.

Expanded unemployment rates. Japan's expanded unemployment rates under the U–4-through-U–6 framework also can be calculated by using data from the Special Survey, because information on persons outside the labor force who desire to work is available and more detailed information on part-time workers is available as well. *Discouraged workers* are persons outside the labor force who desire to work, but who are not looking for a job because they believe that they have no prospect of finding one. *Other marginally attached workers* are persons outside the labor force who desire to work, but who are not looking for a job because they are attending school or keeping house, they have no time to look for a job, they are temporarily ill, or they have other reasons for not looking. All marginally attached workers (including discouraged workers) must be able to take up a job immediately and must have searched for a job within the past year, except for the previous 4 weeks. An interesting issue to be discussed later is whether inactive jobseekers should be included among discouraged workers or marginally attached workers.

Adjustments and comparisons

The previous section presented the reasons Japan's unemployment rates need to be adjusted for closer comparability with U.S. concepts. In the current section, the adjusted data are provided and compared for the period 1994–2000. First, adjustments are made to the official Japanese unemployment rates. Then adjustments to the expanded rates U–4 through U–6 are addressed.

Adjusted official unemployment rates. The details and results of adjusting Japan's official unemployment rate to the U.S. definitions and concepts from 1994 to 2000 for February are shown in table 1 for both sexes, in table 2 for men, and in table 3 for women. Table 1 shows that for both sexes, when U.S. concepts are applied, Japan's official unemployment rate, U–3, is slightly overestimated, with the adjusted rate below the official unemployment rate by 0.2 to 0.3 percentage point. The reason for this difference is that the number of inactive jobseekers subtracted from the unemployed is greater than the sum of the following two additions to the unemployed: (1) persons waiting to start a new job within 30 days who are

currently available for work and who are not recent graduates and (2) the number of jobseekers not in the labor force.

No significant male-female difference appears in the Japanese official unemployment rate, although the rate for men is slightly higher than that for women. Table 2 shows, however, that Japan's official unemployment rate is overestimated for men: U–3 for men is below the official unemployment rate by 0.4 to 0.9 percentage point. The number of male inactive jobseekers—which is more than double the number of female inactive jobseekers—accounts for most of the unemployed men added to the Japanese figures.

By contrast, table 3 shows that when U.S. concepts are applied, the official unemployment rate is slightly underestimated for women: U–3 for women is above the official unemployment rate by 0.2 to 0.4 percentage point. One factor involved in explaining this underestimation is that the number of jobseekers not in the labor force is larger than the number of inactive jobseekers among women. Another factor is the relatively large number of women waiting to start a new job within 30 days who are currently available for work and are not recent graduates.

From these results, we can confirm that there still exists a male-female difference in U–3, but the degree of this difference has become smaller than that estimated by Sorrentino in each of 1984, 1987, 1989, and 1993. One reason for this smaller difference is the reduction by half in the number of persons waiting to start a new job within 30 days, except for recent graduates, because their current job availability is now tested in the survey.

The next several sections present adjustments to the expanded unemployment rates U–4 through U–6. Because discouraged workers are added to the unemployed at U–4, their measurement is discussed first, followed by all marginally attached persons (U–5), and persons working part time for economic reasons (U–6).

Discouraged workers. Japan does not have a concept of "discouraged workers," but something akin to the U.S. concept can be gleaned from the data collected in the Special Survey. Changes in both the U.S. definition in 1994 and the Japanese survey questionnaire in 1997 have important effects on the outcome of the analysis. A further complication is that, for Japan, a decision has to be made on how to treat the aforementioned inactive jobseekers. Some of these persons could be discouraged workers, and whether they are included in that category has a significant impact on the survey results.

In what follows, the method of determining the number of discouraged workers in Japan is described, using the U.S. definition that was revised in 1994. Problems in determining the number who are currently available are addressed, and the inactive jobseekers are discussed. After that, some remarks are made concerning the impact of the change in the U.S. definition on the estimated number of discouraged workers.

In the Special Surveys, persons not in the labor force are questioned in detail about their desire for work, the last time they sought work, the reasons they are not currently seeking work, and their availability for work. The number of persons who desired work, who sought work in the past year, and who were available for work, but were not seeking it currently because they believed that there was "no prospect of finding a job," were determined to be the group most closely comparable to discouraged workers in the United States. (See the second column of exhibit 3 for the current U.S. definition.)

Determining the number who were "available for work" was not straightforward prior to 1997. In surveys carried out before that year, these persons were asked, "If you find a job now, can you take it?" The respondents were requested to choose one of the following answers:

(a) Yes, immediately
(b) Yes, but later
(c) No or undecided

Seemingly, an answer "yes, immediately" indicates that the respondent is currently available for work. Persons responding in this way were deemed to be discouraged workers under U.S. concepts if they also met the other criteria of the definition. However, it is possible that some persons who answered "yes, but later" are currently available for work, because they might think that they "can start a job within this week," but "cannot start a job immediately." Alternatively, some of those who answered "yes, immediately" might be able start a job more than 1 week later. Thus, the number of discouraged workers who would be counted as that under U.S. concepts remained ambiguous.

In 1997, a minor redesign was introduced into Japan's Special Survey questionnaire that clarified the availability problem. Persons not in the labor force, but who desired to work, would thereafter have to respond with one of the following answers to the question asking them when they could take a job:

(a) Yes, immediately
(b) Yes, but later
(c) Within 2 weeks
(d) More than 2 weeks later
(e) No or undecided

Those classified as discouraged workers are now clearly limited to persons who choose "yes, immediately" and who meet the other criteria described.

Besides discouraged workers as just delineated, another group may be discouraged: the inactive jobseekers. Recall that these are persons who have been eliminated from the Japanese unemployed for purposes of approaching compara-

Table 1. Japan's alternative measures of unemployment and other forms of labor resource underutilization: U–3 through U–6, February 1994–2000, men and women

[In thousands]

Category	1994	1995	1996	1997	1998	1999	2000
Reported unemployed	1,940	1,990	2,240	2,300	2,460	3,130	3,270
Less unemployed who are inactive jobseekers	410	410	440	440	490	590	650
Plus jobseekers not in labor force and currently available for work	120	120	100	140	130	120	210
Plus persons waiting to start a new job within 30 days[1]	100	130	140	110	110	110	150
Adjusted unemployed	**1,750**	**1,830**	**2,040**	**2,110**	**2,210**	**2,770**	**2,980**
Discouraged workers	190	330	360	320	350	460	530
Discouraged workers[2]	600	740	800	760	840	1,050	1,180
U–4 numerator	1,940	2,160	2,400	2,430	2,560	3,230	3,510
U–4 numerator[2]	2,350	2,570	2,840	2,870	3,050	3,820	4,160
Marginally attached workers[3]	640	870	900	900	980	1,200	1,360
U–5 numerator[3]	2,390	2,700	2,940	3,010	3,190	3,970	4,340
Part-time workers for economic reasons	1,490	3,330	1,630	1,490	1,780	2,320	2,270
U–6 numerator[3]	3,880	6,030	4,570	4,500	4,970	6,290	6,610
Reported labor force	64,840	65,020	65,100	66,350	66,450	66,360	66,270
Less family workers working fewer than 15 hours per week	430	430	430	420	420	420	380
Less Self-Defense Forces	240	240	240	240	240	240	240
Less unemployed who are inactive jobseekers	410	410	440	440	490	590	650
Plus jobseekers not in labor force and available for work	120	120	100	140	130	120	210
Plus persons waiting to start a new job within 30 days	100	130	140	110	110	110	150
Adjusted labor force	**63,980**	**64,190**	**64,230**	**65,500**	**65,540**	**65,360**	**65,360**
U–4 denominator	64,170	64,520	64,590	65,820	65,890	65,800	65,890
U–4 denominator[2]	64,580	64,930	66,030	66,260	66,380	66,390	66,540
U–5 and U–6 denominator[3]	64,620	65,060	65,130	66,400	66,520	66,540	66,720
Reported official unemployment rate (percent)	3.0	3.1	3.4	3.5	3.7	4.7	4.9
Adjusted unemployment rate (U–3)	**2.7**	**2.9**	**3.2**	**3.2**	**3.4**	**4.2**	**4.6**
U–4 (percent)	3.0	3.4	3.7	3.7	3.9	4.9	5,3
U–4 (percent)[2]	3.6	4.0	4.4	4.3	4.6	5.8	6.3
U–5 (percent)[3]	3.7	4.2	4.5	4.5	4.8	6.0	6.5
U–6 (percent)[3]	6.0	9.3	7.0	6.8	7.5	9.5	9.9
U–4/U–3	1.11	1.17	1.16	1.16	1.15	1.17	1.15
U–4/U–3[2]	1.33	1.38	1.38	1.34	1.35	1.38	1.37
U–5/U–3[3]	1.37	1.45	1.41	1.41	1.41	1.43	1.41
U–6/U–3[3]	2.22	3.21	2.19	2.13	2.21	2.26	2.15

[1] Persons waiting to start a new job within 30 days are currently available for work and do not include recent graduates.
[2] Inactive jobseekers are classified as discouraged workers.
[3] Inactive jobseekers are classified as marginally attached workers.

NOTE: Sums do not necessarily add to totals because of rounding.

SOURCE: Special Survey of the Labor Force Survey, Statistics Bureau, Tokyo.

bility with U.S. concepts, on the grounds that they did not actively seek work in the previous 4 weeks. Because Japan counts them as unemployed, they are not questioned about whether their state of mind can be characterized as "discouraged." It is known, however, that they are available for work and that they looked for work in the previous year. Accordingly, one can reasonably speculate that some of them are not currently looking for a job because they think the search will be in vain.

Because of the absence of specific information on inactive jobseekers, two estimates of discouraged workers are shown in tables 1, 2, and 3. The first does not include any of the inactive jobseekers and comprises only those persons initially classified as not in the labor force who met all the U.S. criteria for being discouraged workers. The second estimate includes all of the inactive jobseekers as discouraged workers. The estimates are significantly different. For example, including all inactive jobseekers doubles the discouraged-worker estimate for 2000, and the effect is even larger in other years.

Both the former and current U.S. definitions of discouraged workers are presented in exhibit 3. The 1994 change in definition had a large impact on the number of discouraged workers in both the United States and Japan. In the two countries, the number of discouraged workers was drastically reduced, mainly because of the new requirement for having

undertaken a job search in the previous year and for explicitly demonstrating one's current availability for work during the reference week. Therefore, the results of the comparisons set forth here for the period 1994-2000 are quite different in magnitude from the comparisons for the years prior to 1994, as presented in Sorrentino's studies. (See appendix.)

Table 4 illustrates the effect of applying the 1994 CPS definitions to the Japanese data on discouraged workers. The rows headed "(D)" and "(E)," for men and for women, present the results based on the earlier definition. If all of the inactive jobseekers are excluded, then, in 2000, the number of discouraged workers in Japan under the current definition is only one-quarter of the number that it was under the old definition (140,000, compared with 570,000). If the inactive jobseekers

Table 2. Japan's alternative measures of unemployment and other forms of labor resource underutilization, U–3 through U–6, February 1994–2000, men

[In thousands]

Category	1994	1995	1996	1997	1998	1999	2000
Reported unemployed	1,100	1,170	1,330	1,350	1,510	1,890	2,040
Less unemployed who are inactive obseekers	280	270	310	310	350	430	470
Plus jobseekers not in labor force and currently available for work	30	20	20	30	30	40	60
Plus persons waiting to start a new job within 30 days[1]	30	40	40	30	40	40	60
Adjusted unemployed	**880**	**960**	**1,080**	**1,100**	**1,230**	**1,540**	**1,690**
Discouraged workers	40	90	90	70	80	140	140
Discouraged workers[2]	320	360	400	380	430	570	610
U–4 numerator	920	1,050	1,170	1,170	1,310	1,680	1,830
U–4 numerator[2]	1,200	1,320	1,480	1,480	1,660	2,110	2,300
Marginally attached workers[3]	340	410	440	430	470	630	670
U–5 numerator[3]	1,220	1,370	1,520	1,530	1,700	2,170	2,360
Part-time workers for economic reasons	520	950	610	550	690	890	840
U–6 numerator[3]	1,740	2,320	2,130	2,080	2,390	3,060	3,200
Reported labor force	38,860	38,840	39,070	39,610	39,590	39,690	39,600
Less family workers working fewer than 15 hours per week	40	40	40	40	40	40	30
Less Self-Defense Forces	230	230	230	230	230	230	230
Less unemployed who are inactive jobseekers	280	270	310	310	350	430	470
Plus jobseekers not in labor force and available for work	30	20	20	30	30	40	60
Plus persons waiting to start a new job within 30 days	30	40	40	30	40	40	60
Adjusted labor force	**38,370**	**38,360**	**38,550**	**39,090**	**39,040**	**39,070**	**38,980**
U–4 denominator	38,410	38,450	38,640	39,160	39,120	39,210	39,120
U–4 denominator[2]	38,690	38,720	38,950	39,470	39,470	39,640	39,590
U–5 and U–6 denominator[3]	38,710	38,770	38,990	39,520	39,510	39,700	39,650
Reported official unemployment rate (percent)	2.8	3.0	3.4	3.4	3.8	4.8	5.2
Adjusted unemployment rate (U–3)	**2.3**	**2.5**	**2.8**	**2.8**	**3.2**	**3.9**	**4.3**
U–4 (percent)	2.4	2.7	3.0	3.0	3.4	4.3	4.7
U–4 (percent)[2]	3.1	3.4	3.8	3.8	4.2	5.3	5.8
U–5 (percent)[3]	3.2	3.5	3.9	3.9	4.3	5.5	6.0
U–6 (percent)[3]	4.5	6.0	5.5	5.3	6.1	7.7	8.1
U–4/U-3	1.04	1.08	1.07	1.07	1.06	1.10	1.10
U–4/U-3[2]	1.35	1.36	1.36	1.36	1.31	1.36	1.35
U–5/U-3[3]	1.39	1.40	1.39	1.39	1.34	1.41	1.40
U–6/U-3[3]	1.96	2.40	1.96	1.89	1.91	1.97	1.88

[1] Persons waiting to start a new job within 30 days are currently available for work and do not include recent graduates.

[2] Inactive jobseekers are classified as discouraged workers.

[3] Inactive jobseekers are classified as marginally attached workers.

NOTE: Sums do not necessarily add to totals because of rounding.

SOURCE: Special Survey of the Labor Force Survey, Statistics Bureau, Tokyo.

Table 3. Japan's alternative measures of unemployment and other forms of labor resource underutilization, U–3 through U–6, February 1994–2000, women

[In thousands]

Category	1994	1995	1996	1997	1998	1999	2000
Reported unemployed	840	820	910	940	950	1,240	1,230
Less unemployed who are inactive jobseekers	130	140	130	130	140	160	180
Plus jobseekers not in labor force and currently available for work	90	90	700	110	100	80	160
Plus persons waiting to start a new job within 30 days[1]	60	80	100	80	70	70	90
Adjusted unemployed	**860**	**850**	**950**	**1,000**	**980**	**1,230**	**1,300**
Discouraged workers	150	250	260	250	260	320	390
Discouraged workers[2]	280	390	390	380	400	480	570
U–4 numerator	1,010	1,100	1,210	1,250	1,240	1,550	1,690
U–4 numerator[2]	1,140	1,240	1,340	1,380	1,380	1,710	1,870
Marginally attached workers[3]	300	480	470	460	500	580	680
U–5 numerator[3]	1,160	1,330	1,420	1,460	1,480	1,810	1,980
Part-time workers for economic reasons	970	2,380	1,020	940	1,080	1,430	1,440
U–6 numerator[3]	2,130	3,710	2,440	2,400	2,560	3,240	3,420
Reported labor force	25,970	26,180	26,030	26,740	26,860	26,670	26,670
Less family workers working fewer than 15 hours per week	390	390	390	370	370	370	350
Less Self-Defense Force	10	10	10	10	10	10	10
Less unemployed who are inactive jobseekers	130	140	130	130	140	160	180
Plus jobseekers not in labor force and available for work	90	90	70	110	100	80	160
Plus persons waiting to start a new job within 30 days	60	80	100	80	70	70	90
Adjusted labor forces	**25,590**	**25,810**	**25,670**	**26,420**	**26,510**	**26,280**	**26,380**
U–4 denominator	25,740	26,060	25,930	26,670	26,770	26,600	26,770
U–4 denominator[2]	25,870	26,200	26,060	26,800	26,910	26,760	26,950
U–5 and U–6 denominator[3]	25,890	26,290	26,140	26,880	27,010	26,860	27,060
Reported official unemployment rate (percent)	3.2	3.1	3.5	3.5	3.5	4.7	4.6
Adjusted unemployment rate (U–3)	**3.4**	**3.3**	**3.7**	**3.8**	**3.7**	**4.7**	**4.9**
U–4	3.9	4.2	4.7	4.7	4.6	5.8	6.3
U–4[2]	4.4	4.7	5.1	5.2	5.1	6.4	6.9
U–5[3]	4.5	5.1	5.4	5.4	5.5	6.7	7.3
U–6[3]	8.2	14.1	9.3	8.9	9.5	12.1	12.6
U–4/U–3	1.15	1.27	1.27	1.24	1.24	1.23	1.29
U–4/U–3[2]	1.29	1.42	1.38	1.37	1.38	1.36	1.41
U–5/U–3[3]	1.32	1.55	1.46	1.42	1.49	1.43	1.49
U–6/U–3[3]	2.41	4.27	2.51	2.34	2.57	2.57	2.57

[1] Persons waiting to start a new job within 30 days are currently available for work and do not include recent graduates

[2] Inactive jobseekers are classified as discouraged workers.

[3] Inactive jobseekers are classified as marginally attached workers.

NOTE: Sums do not necessarily add to totals because of rounding.

SOURCE: Special Survey of the Labor Force Survey, Statistics Bureau, Tokyo.

are included, then the decrease is less: about 60 percent of the former number of discouraged workers are still counted (610,000, compared with 1,040,000). Recall that in the United States, the new definition resulted in cutting the number of discouraged workers in half.

The reduction in the estimated number of discouraged workers is a direct result of the testing of respondents' current availability and past job search activities. Both factors contribute to the reduction, but it is difficult to discern the effect of each separately.

The number of discouraged workers estimated on the basis of the current CPS definitions and concepts has increased in Japan in greater proportion than the increase in U–3. Therefore, discouraged workers might seem now to be more closely connected to the job market as a result of the CPS revisions. In Japan, however, the labor force attachment of discouraged workers has not been examined empirically, so no data are available on what percentage of discouraged workers entered or returned to the labor market or even whether they tested the job market.

Marginally attached workers. This group includes discouraged workers and all other persons who wanted a job, who sought work in the previous year, but not the past 4 weeks, and who were currently available for work. That is, the group includes the discouraged, as well as persons who gave other reasons for not seeking work in the past 4 weeks, even though they expressed a desire for a job.

It is easier to decide how to classify inactive jobseekers (unemployed persons awaiting evaluation of job applications submitted more than 4 weeks previously) at this point. Although the Special Survey does not question them further, it can be assumed that inactive jobseekers wanted a job (because they have applied for one) and that they most likely looked for work in the past year (because they are awaiting evaluation of a job application). Also, given that they were initially classified as unemployed in the survey, it can be assumed that they were available for work. Thus, all of the inactive jobseekers are allocated to the marginally attached group (U–5). It is possible that this group is slightly overestimated, because some may indeed be awaiting evaluation of their application for more than a year.

Part time for economic reasons. In the Special Survey, part-time workers are not questioned explicitly about their desire or current availability for full-time work. Because, since 1994, U.S. concepts require part-time workers to desire, and to be available for, full-time work in order to be classified as working part time for economic reasons, it is not possible to determine the precise number of persons working part time for economic reasons in Japan.

In Japan, workers who work fewer than 35 hours in the reference week are classified as part-time workers. They are asked about their reasons for working part time and their desire for full-time work. In this regard, they are requested to choose from among the following answers:

Normal work time is fewer than 35 hours.

(a) I wish to work 35 or more hours.

(b) I wish to work fewer than 35 hours.

Reasons imposed by business or employer:

(c) Slack in businesses

(d) Other

(e) Due to own or family condition

(f) Bad weather

(g) Other

In this article, part-time workers who choose (a) and (c) are

Table 4. Estimated number of discouraged workers in Japan, by sex, February 1994–2000

[In thousands]

Category	1994	1995	1996	1997	1998	1999	2000
Men							
(A) Adjusted official unemployment	880	960	1,080	1,100	1,230	1,540	1,690
(B) Discouraged workers, based on the current concepts[1]	40	90	90	70	80	140	140
(C) Discouraged workers, based on the current concepts[2]	320	360	400	380	430	570	610
(D) Discouraged workers, based on the earlier concepts[1]	480	540	510	440	480	560	570
(E) Discouraged workers, based on the earlier concepts[2]	760	810	820	750	830	990	1,040
(B)/(A)	.05	.09	.08	.06	.07	.09	.08
(C)/(A)	.36	.38	.37	.35	.35	.37	.36
(D)/(A)	.55	.56	.47	.40	.39	.36	.34
(E)/(A)	.86	.84	.76	.68	.68	.64	.62
(B)/(D)	.08	.17	.18	.16	.17	.25	.25
(C)/(E)	.42	.44	.49	.51	.52	.58	.59
Women							
(A) Adjusted official unemployment	860	850	950	1,000	980	1,230	1,300
(B) Discouraged workers, based on the current concepts[1]	150	250	260	250	260	320	390
(C) Discouraged workers, based on the current concepts[2]	280	390	390	380	400	480	570
(D) Discouraged workers, based on the earlier concepts[1]	1,990	2,110	2,270	1,640	1,670	1,880	1,850
(E) Discouraged workers, based on the earlier concepts[2]	2,120	2,250	2,400	1,770	1,810	2,040	2,030
(B)/(A)	.17	.29	.27	.25	.27	.26	.30
(C)/(A)	.33	.46	.41	.38	.41	.39	.44
(D)/(A)	2.31	2.48	2.39	1.64	1.70	1.53	1.42
(E)/(A)	2.47	2.65	2.53	1.77	1.85	1.66	1.56
(B)/(D)	.08	.12	.12	.15	.16	.17	.21
(C)/(E)	.13	.17	.16	.22	.22	.24	.28

[1] Inactive jobseekers are not classified as discouraged workers.
[2] Inactive jobseekers are classified as discouraged workers.

SOURCE: Special Survey of the Labor Force Survey, Statistics Bureau, Tokyo.

classified as persons working part time for economic reasons for purposes of comparison with the same U.S. category. The former are asked about their desire for a full-time job, but not about their current availability for full-time work. The latter are asked about neither their desire for a full-time job nor their current availability for full-time work. Therefore, it is possible that the number of persons working part time for economic reasons in Japan is overestimated in relation to U.S. concepts, which, as mentioned earlier, require the person to desire, and be available for, full-time work.

In the Special Survey conducted in 1995, the design of the questionnaire for part-time workers was different from that of other years. In the 1995 Special Survey, the focus was on part-time workers whose normal worktime was fewer than 35 hours per week. These workers were asked not only about their desire for full-time work, but also about their reasons for working fewer than 35 hours. This change in the design of the questionnaire might have induced time to express their desire for full-time work. The number of part-time workers whose normal worktime was fewer than 35 hours and who wished to work 35 or more hours was extraordinarily large. In the 1995 Special Survey, workers who worked fewer than 35 hours in the reference week were requested to choose from among the following answers:

Normal worktime in fewer than 35 hours.
Reasons imposed by business or employer:
- (a) Slack in businesses
- (b) Other
- (c) Due to own or family condition
- (d) Bad weather
- (e) Other

If normal worktime is fewer than 35 hours, why [is that so]?
- (a) I do not wish to work 35 hours
  or
  I wish to work 35 hour or more hours, but [I am unable to because]
- (b) Of bad business conditions
- (c) I cannot find work [for] 35 or more hours
- (d) Of [my] own or [my] family['s] condition
- (e) Other

Estimates of expanded unemployment rates. The details and results of calculating U–4 through U–6 for Japan from 1994 to 2000 for February are shown in tables 1, 2, and 3. The relative ratios of expanded unemployment rates to the official unemployment rate, U–3, also are given in these tables.

(1) U–4 and U–5. Because of the problems just discussed concerning the classification of inactive jobseekers, it is not possible to determine the precise number of discouraged workers in Japan. Accordingly, the tables show the alternative unemployment measure U–4 as a range, depending on how discouraged workers are classified.

If inactive jobseekers *are* classified as discouraged workers, then the number of discouraged workers is an upper limit in which the range of discouraged workers is fully expanded. U–4 and U–5 also represent an upper limit.

If inactive jobseekers *are not* classified as discouraged workers, then the number of discouraged workers is a lower limit that falls strictly within U.S. definitions and concepts. U–4 related to the number of such workers also is a lower limit.

If inactive jobseekers *are* classified as discouraged workers, then U–4 is higher than U–3 by 0.9 to 1.7 percentage points for both sexes during the 1994–2000 period. The increase in the number of male inactive jobseekers then contributes significantly to the growth in the number of male discouraged workers. The ratio of U–4 to U–3 for women is slightly higher than that for men.

If inactive jobseekers *are not* classified as discouraged workers for both sexes, then the number of discouraged workers increases from 1994 to 2000 in proportion to the increase in U–3—particularly in 1999 and 2000, when U–3 rose rapidly. U–4 also increases and is higher than U–3 by 0.3 to 0.7 percentage point during that period. The ratio of U–4 to U–3 for women is clearly higher than that for men.

With all inactive jobseekers classified as marginally attached workers, the number of marginally attached workers might be slightly overestimated, because inactive jobseekers who applied for a job more than 1 year before the date of the survey and who did not search for a job during the subsequent year would be included in the count of marginally attached workers. The estimate is then an upper limit for U–5, which in that case is higher than U–3 by 1.4 points for both sexes during the 1994–2000 period. (See U–5/U–3 ratio in table 1.) Also, the increase in the number of male inactive jobseekers contributes significantly to the growth in the number of male marginally attached workers. Except for 1994, during the 1995–2000 period, the relative ratio of U–5 to U–3 for women was slightly higher than that for men.

Some labor economists might imagine that in Japan the number of females classified as marginally attached workers is quite large because many women are homemakers and cannot work in spite of their desire to do so. The figures in the tables, however, contradict these expectations. The number of women who desire work, but who are not seeking a job because they are homemakers, is relatively large in Japan, but most of these women are not currently available for work and have not engaged in jobseeking activities previously. This gap between intention and activity in Japanese women warrants further investigation.

(2) U–6. At U–6, persons working part time for economic reasons are added to U–5. For both sexes, the number of per-

sons working part time for economic reasons increased roughly in proportion to the increase in U–3 from 1994 to 2000, except in 1996. The number was especially high in 1999 and 2000, reflecting a concomitant increase in U–3.

More than 60 percent of persons working part time for economic reasons are women, so there is a significant male-female difference in the ratio of U–6 to U–3. Specifically, the ratio for women is much higher than that for men.

Comparison of United States and Japan

The official U.S. unemployment rate U–3, as well as the alternative measures U–4 through U–6, are shown in table 5 for the period 1994–2000.[23] All of the figures are annual averages. The ratios of the expanded unemployment rates to the official rate also are shown.

For both sexes, as U–3 declined during the period, U–4 through U–6 also declined. U–3 appears to exhibit no significant male-female difference. The ratio of U–4 to U–3 is almost the same for men as for women. There is, however, a significant male-female difference in the ratios of U–5 to U–3 and U–6 to U–3, with the ratios for women clearly higher than those for men. These results imply that in the United States, the probability of falling into the category of "other marginally attached workers" or "persons working part time for economic reasons" is higher for women. Therefore, in the United States, the degree of underutilization of female labor resources may be said to be higher than that of male labor resources.

The rates U–3 through U–6 for the United States and Japan may be compared each year by using the data shown in tables 1, 3, 4, and 5. The comparison requires caution, however, because Japan's yearly averaged figure is not available and the unemployment rate is affected by economic fluctuations. Although no significant differences are found in the results for February and August in 1999 and 2000, it is still wise to take care when comparing rates.

To eliminate the effects of economic fluctuations, each measure U–3 through U–6 of both countries from 1994 to 2000 was averaged. The results are shown in table 6. Averaged ratios of U–4 through U–6 to U–3 also are shown. There are two cases for Japan's discouraged workers: in one, inactive jobseekers *are not* classified as discouraged workers; in the other, inactive jobseekers *are* classified as discouraged workers.

Japan's official unemployment rate is lower than U–3 for the United States, and Japan's adjusted unemployment rate U–3 also is lower than U–3 for the United States for both sexes together, for men, and for women. Japan's expanded

Table 5. U.S. alternative measures of unemployment and other forms of labor resource underutilization, U–3 through U–6, annual averages, 1994–2000

[In percent]

Rate	1994	1995	1996	1997	1998	1999	2000
Total							
U–3	6.1	5.6	5.4	4.9	4.5	4.2	4.0
U–4	6.5	5.9	5.7	5.2	4.7	4.4	4.2
U–5	7.4	6.7	6.5	5.9	5.4	5.0	4.8
U–6	10.9	10.1	9.7	8.9	8.0	7.4	7.0
U–4/U–3	1.06	1.05	1.05	1.05	1.04	1.05	1.05
U–5/U–3	1.21	1.20	1.20	1.20	1.20	1.19	1.20
U–6/U–3	1.78	1.80	1.79	1.80	1.79	1.77	1.75
Men							
U–3	6.2	5.6	5.4	4.9	4.4	4.1	3.9
U–4	6.6	5.9	5.7	5.1	4.7	4.3	4.1
U–5	7.3	6.6	6.3	5.7	5.2	4.8	4.7
U–6	10.5	9.6	9.2	8.4	7.6	7.0	6.7
U–4/U–3	1.06	1.06	1.06	1.05	1.06	1.05	1.05
U–5/U–3	1.18	1.18	1.18	1.17	1.18	1.18	1.19
U–6/U–3	1.70	1.73	1.71	1.72	1.73	1.71	1.71
Women							
U–3	6.0	5.6	5.4	5.0	4.6	4.3	4.1
U–4	6.3	5.9	5.7	5.2	4.8	4.5	4.3
U–5	7.5	6.9	6.7	6.1	5.6	5.3	5.0
U–6	11.3	10.6	10.2	9.4	8.5	7.9	7.4
U–4/U–3	1.05	1.05	1.05	1.04	1.04	1.04	1.04
U–5/U–3	1.25	1.23	1.23	1.22	1.22	1.21	1.20
U–6/U–3	1.88	1.88	1.88	1.87	1.85	1.82	1.80

SOURCE: Current Population Survey, U.S. Bureau of Labor Statistics and Bureau of the Census.

Table 6. Unemployment rates and labor resource underutilization in the United States and Japan, 1994–2000 averages (annual for United States, February for Japan)

[In percent]

Rate	Both sexes		Men		Women	
	United States	Japan	United States	Japan	United States	Japan
Official	5.0	3.8	4.9	3.8	5.0	3.7
U–3	5.0	3.5	4.9	3.1	5.0	3.9
U–4	5.2	4.0	5.2	3.4	5.2	4.9
U–4[1]	...	4.7	...	4.2	...	5.4
U–5[2]	6.0	4.9	5.8	4.3	6.2	5.7
U–6[2]	8.8	8.0	8.4	6.2	9.3	10.7
U–4/U–3	1.05	1.15	1.06	1.08	1.04	1.24
U–4/U–3[1]	...	1.36	...	1.35	...	1.38
U–5/U–3[2]	1.20	1.41	1.18	1.39	1.23	1.45
U–6/U–3[2]	1.78	2.31	1.71	1.98	1.86	2.72

[1] Inactive jobseekers are classified as discouraged workers in Japan.
[2] Inactive jobseekers are classified as marginally attached workers in Japan.
SOURCE: United States—Current Population Survey, U.S. Bureau of Labor Statistics, and Bureau of the Census; Japan—Special Survey of the Labor Force Survey," Japanese Statistics Bureau.

unemployment rate encompassing discouraged workers, U–4, is below the U.S. level for both sexes together and for men, even when inactive jobseekers are classified as discouraged workers. However, Japan's U–4 for women is higher than its counterpart in the United States when inactive jobseekers are classified as discouraged workers. The Japanese ratio of U–4 to U–3 is higher than the U.S. ratio for both sexes together, for men, and for women, even when inactive jobseekers are not classified as discouraged workers.

All of these results indicate that even after asking respondents about their current availability for a job and their past job search activities, surveys find that the number of Japanese discouraged workers—especially women—is still relatively large. After taking discouraged workers into account, Japan's underutilization of labor resources is still relatively high compared with that of the United States, especially for women.

Japan's expanded unemployment rate encompassing marginally attached workers, U–5, is below the U.S. level for both sexes, for men, and for women. Japan's relative ratio of U–5 to U–3 is above the U.S. level for both sexes, for men, and for women. With marginally attached workers taken into account, the degree of Japan's labor resource underutilization is also relatively high compared with the U.S. level.

Japan's expanded unemployment rate encompassing marginally attached workers and persons working part time for economic reasons, U–6, is below the U.S. level for both sexes and for men. Japan's U–6 for women is well above the U.S. level.

Japan's ratio of U–6 to U–3 is clearly higher than the U.S. level for both sexes. The ratio of U–6 to U–3 for men is approximately the same as that for the United States. The ratio of U–6 to U–3 for Japanese women is much higher than that of their U.S. counterparts.

The results regarding U–6 indicate that the number of persons working part time for economic reasons is relatively large in Japan, even if we discount the factor that that number is overestimated in comparison with estimates produced in accordance with U.S. concepts. Japanese women especially have a higher tendency to work part time for economic reasons.

When marginally attached workers and persons working part time for economic reasons are taken into account, Japan's labor resource underutilization is seen to be relatively high compared with that the United States, especially as regards women. Large numbers of persons working part time for economic reasons contribute to the underutilization of labor resources.

Through the foregoing investigations, it becomes clear that the changes in definitions and concepts of discouraged workers have a large impact on comparisons of unemployment rates in the two countries. Similarly, changes in the definitions and concepts of persons working part time for economic reasons also have a considerable impact on the comparisons.

From the preceding analysis, it becomes evident as well that in Japan there exist gender-related differences in the underutilization of labor resources. Women are more underutilized than men, although less so when the 1994 CPS revisions are taken into account. The analysis also suggests that Japan's labor resources would be seen as more underutilized than U.S. labor resources if the official unemployment rates of both countries were the same. The degree of underutilization of labor resources as measured by U–4 depends on whether one places inactive jobseekers in the group of discouraged workers. However, it is clear that almost all the inactive jobseekers

should be classified as other marginally attached workers at U–5. Nonetheless, more detailed information about inactive jobseekers has not been collected in Japan, and this paucity of information restricts investigations examining the country's underutilization of labor resources.

Another caveat is that persons on temporary leave (discussed earlier in the section on layoffs), persons given little work to do, and temporary workers who do not expect their jobs to last are not included in this analysis of underutilization, because they did not fit into the foregoing framework. Individuals in such situations also form a part of Japan's underutilization of labor resources, and they are discussed in the next section.

Implications of the comparisons

The differences in the labor market structures of Japan and the United States are reflected in the preceding findings. The explanation given by Sorrentino for these differences is basically valid, but we have to apply her ideas to current conditions, because labor market structures and the surrounding environment have changed since the publication of her articles.

In Japan, for many years large and medium-sized companies have guaranteed the long-term employment of core employees. Although most core employees are men, the number of female core employees has been increasing. The Equal Employment Opportunity Law, enacted in 1985, has intensified this trend.

Most core employees begin working for their employers after graduating from college, and they have to leave at the mandatory retirement age. Many Japanese managers of large and medium-sized companies recognize that the long-term employment system has contributed much to the accumulation of human capital by developing firm-specific skills in core employees. These managers express their intention to maintain the system in the future.

Firms tend to hoard core workers during recessions in order to avoid losing firm-specific skills. Even middle-aged or elderly core employees who did not climb the career ladder can stay on at a firm without losing their jobs, because they are given pseudomanagement posts. This practice can be considered a form of underutilization. Core employees receive a retirement allowance, and sometimes a corporate pension, upon mandatory retirement. The longer the length of tenure, the greater is the award.

It is often said that social institutions have complemented the long-term employment system, so the vested rights and benefits of core employees have been maintained. Japanese managers cannot dismiss core employees freely, because dismissal at will is restricted by legislation. Certain specified conditions must be met to fulfill judicial precedents.[24]

In Japan, retirement benefits are not portable, so the employee cannot convey his or her rights upon quitting a job before mandatory retirement. Accordingly, worker mobility is greatly restricted.

Many companies were forced to restructure this past decade as Japan experienced some economic sluggishness. Past studies show that in severe recessions, if firms sustain deficits for more than two consecutive terms (usually 2 years), they cannot avoid reducing their staffs.[25] Interestingly, regardless of the country's social institutions, it is possible to reduce the number of core employees because the long-term employment system is based on an implicit contract between employer and employee.

During recession, employers often use the early retirement system as a means of reducing their staffs. Paying extra severance pay induces some core employees to retire at an age younger than the mandatory retirement age. Older employees frequently are forced or persuaded to accept the offer of early retirement. Restraint in hiring recent graduates also is an effective method of reducing the number of core employees, because older core employees have no choice but to retire under the mandatory retirement system.

There is no hard evidence which proves that job security is declining in Japan, but some job losers who were core employees have contributed to the soaring official unemployment rate in Japan. At the same time, opportunities for youths to get a good job are scarce and limited to the time just after graduation from school. Reflecting this scarcity of opportunity, the number of unemployed youths soared during the decade.[26]

Note that core employees protected by the long-term employment system are only about one-fourth of total employment in Japan.[27] In most Japanese small companies, the long-term employment system has not been adopted, although some such companies have tried to adopt it, modeling its use on that in large-sized companies. In general, the level of an employee's skills in a firm depends on the employee's tenure with the firm. Because labor mobility between small companies has been relatively high in Japan, employees have not formed enough firm-specific skills. Many who worked for small companies lost their jobs as a result of restructuring or the business folding. Male non-white-collar workers and female clerks working for small companies are prone to lose their jobs during recessions. They cannot find new jobs easily, because they lack the requisite skills. These job losers have contributed much to the soaring official unemployment rate.

A recent survey supplementary to the Regular Survey investigated the situation of unemployed persons who lost their jobs. The survey revealed that persons older than 45 years, persons who had been in unskilled jobs, and persons who worked for small firms account for a large portion of job losers.[28]

In Japan, the situation of discouraged workers and

those classified as "other marginally attached workers" has not yet been surveyed. Thus, the reason they fell into those categories is not clear, and any explanation thereof is speculative.

As mentioned earlier, in Japan it is possible, but not easy, to reduce the number of core employees of large and medium-sized companies. Reducing the number of nonregular workers, such as part-time workers, temporary workers who do not expect their jobs to last (also called "dispatched workers"), and seasonal workers, is the major method by means of which Japan's large and medium-sized companies reduce their staffs during recessions. Because women account for the major portion of part-time workers and dispatched workers, and because most of them also are engaged in housework, during recessions they might become discouraged workers or "other marginally attached workers," bypassing a categorization of "unemployed" altogether.

Also as mentioned earlier, in Japan there are male discouraged workers, although their number is relatively small. The number of male part-time workers and dispatched workers has increased recently. Possibly, many are often seasonally employed as factory workers or construction workers. Some work away from their hometowns in major cities during the winter. They might come back to their hometowns and become discouraged or marginally attached to the labor market when they lose their jobs.

Finally, also worthy of mention is the increase in the number of persons working part time for economic reasons during recession. The reason they fall into such a category is not clear, and, again, whatever explanation is tendered is speculative. In that vein, employers can reduce working hours as a method of coping with recession. In fact, it is easier for employers to reduce employees' working hours than to reduce the number of workers. Doing so, however, would increase the number of persons working part time for economic reasons during recession.

In Japan, part-time workers are officially defined as workers who work fewer than 35 hours a week. However, many, who also are called *contingent workers* in the United States, work more than 35 hours a week. These individuals are not core employees and are hired under short-term contracts. Women account for the major portion of this type of part-time worker. Such workers might become part-time workers for economic reasons during recession. If so, employers' strategies accelerate this trend, because, to reduce costs, employers increase the composition of part-time workers and dispatched workers in their employ, instead of decreasing the number of full-time workers.

During the Japanese recession of the past decade, many core regular jobs were abolished. By contrast, many nonregular jobs were created. Part-time workers replaced core workers through attrition. Obviously, this kind of job creation does not guarantee any improvement in the economic welfare of part-time workers.

In accordance with a phenomenon known as the "added-worker effect," Japanese women who usually are engaged in housework tend to enter the labor market during recession because their husbands' wages are reduced. However, most of them cannot find full-time or part-time jobs that satisfy their desired conditions, so they have to engage in part-time jobs with undesirable working conditions. Some are unable to find a job at all and give up searching. These women might become discouraged or might be classified as "other marginally attached workers" without being engaged in part-time work.

Also noteworthy in Japan is the fact that some *men* work part time for economic reasons. There are several possible explanations for their doing so.

Male heads of household who lost their jobs as a result of restructuring or their companies folding are forced to engage in stopgap jobs if they cannot find full-time work after their unemployment insurance benefits run out. Therefore, they become part-time workers for economic reasons.

Some persons who were core workers for large and medium-sized companies have to work after their mandatory retirement because they have to pay back housing loans and because they may have to wait until they reach an older age to receive their full pensions. Full-time opportunities for them are scarce, and they tend to become nonregular workers, such as part-time workers or consultants.

Unemployed men and women who worked for small companies likely are hard pressed to find new jobs because of both their age and outdated skills, so they may find themselves forced to engage in part-time work. It is also difficult for recent graduates to find full-time jobs during a recession, because of restrictions on hiring by employers. Some are accordingly forced to work part time, contrary to what they desire.

In order for a country to utilize labor resources more efficiently, its market mechanisms must work more effectively. That, however, requires some reformation of the labor market, such as promoting the learning of skills, creating jobs, and reducing job search costs. In Japan, data concerning job turnover and labor turnover are scarce, and as a result, the relationship between restructuring and unemployment is not clear. The paucity of data restricts research into how a worker becomes unemployed. More detailed investigations on the activities of the labor force are necessary to implement more effective improvements, as is more detailed research into the activities related to labor slack. □

Notes

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[1] U.S. business cycle expansions and contractions are reported by the Business Cycle Dating Committee of the National Bureau of Economic Research.

[2] In Japan, stock prices and land prices appreciated greatly during the late 1980s and the beginning of the 1990s. For example, the Nikkei Stock Average 225 reported by Nihon Keizai Shimbun, Inc., recorded 12,556 yen in 1985 and 38,915 yen, its highest value ever, at the end of 1989. Similarly, the Urban Land Price Index reported by the Japan Real Estate Institute (1990 = 100) recorded 61.7 in March 1985 for nationwide commercial areas and 111.7, its highest value ever, in September 1991. The growth rates of both of these indexes exceeded the growth rate of nominal GDP. However, prices have fallen in the 1990s: the Nikkei Stock Average 225 was down to 17,160 yen in 2000, and the Urban Land Price Index also was down, to 51.6 in March 2001.

[3] Japan's business cycle expansions and contractions are determined by the Working Group of Indices of Business Conditions of the Japanese Government Cabinet Office.

[4] In Japan, "restructuring," as applied to private companies, usually means "reducing the number of employees without reforming the firm's management system."

[5] A number of economists use the term "lifetime employment" or "lifetime commitment" instead of "long-term employment." Strictly speaking, "lifetime" is incorrect, because firms do not guarantee employment for the entire lifetime of a worker.

[6] The CPS is conducted jointly by the Bureau of Labor Statistics and the Bureau of the Census.

[7] For detailed information on the CPS revisions, see Sharon R. Cohany, Anne E. Polivka, and Jennifer M. Rothgeb, "Revisions in the Current Population Survey Effective January 1994," *Employment and Earnings*, January 1994, pp. 13–35.

[8] The Statistics Bureau was under the Management and Coordination Agency of the Prime Minister's Office until the beginning of 2001. The change is a result of the reorganization of ministries in the Japanese Government.

[9] The Special Survey was conducted in March until 1983 and in February from 1983 to 1998. Since 1999, it has been conducted semiannually, in February and August, reflecting the seriousness of employment conditions in Japan.

[10] The August results are not reported in this article, but are available, together with background data, upon request.

[11] Sorrentino pointed out the importance of this observation; see Constance Sorrentino, "Japan's low unemployment: an in-depth analysis," *Monthly Labor Review*, March 1984, pp. 18–27.

[12] The concept of "alternative unemployment rates" was proposed by Julius Shiskin, who pointed out that it was not appropriate to apply the official unemployment rate to every policy objective. (See Julius Shiskin, "Employment and unemployment: the doughnut or the hole?" *Monthly Labor Review*, February 1976, pp. 3–10.)

[13] The new measures are explained in John E. Bregger and Steven E. Haugen, "BLS introduces new range of alternative unemployment measures," *Monthly Labor Review*, October 1995, pp. 19–26.

[14] In its report on the CPS, the Levitan Commission criticized the definition of discouraged workers and recommended revisions thereto. See Robert L. Stein, "National Commission recommends changes in labor force statistics," *Monthly Labor Review*, April 1980, pp. 11–21.

[15] Paul O. Flaim, "Discouraged workers and changes in unemployment," *Monthly Labor Review*, March 1973, pp. 8–16, established a fairly strong cyclical sensitivity in the number of discouraged workers. Given his result, one might conclude that discouraged workers have strong links to the job market and that they test the market periodically and are ready to jump back into it if they believe that jobs are available. However, Flaim also found that more than half of discouraged workers had not looked for work in more than 1 year and that the majority seldom test the job market. He concluded that only some discouraged workers returned to work or resumed searching for a job. (See Paul O. Flaim, "Discouraged workers: how strong are their links to the job market?" *Monthly Labor Review*, August 1984, pp. 8–11.)

[16] Cohany, Polivka, and Rothgeb used the former and current definitions of "discouraged workers," CPS data, and the CPS parallel survey and found that the estimated number of discouraged workers was reduced to about two-fifths the former count by the revision. They concluded that requiring jobseeking activity within the previous year contributed to a substantial lowering of the estimate of the number of discouraged workers. (See Cohany, Polivka, and Rothgeb, "Revisions in the Current Population Survey.") Monica D. Castillo, "Persons outside the labor force who want a job," *Monthly Labor Review*, July 1998, pp. 34–42, pointed out that in the United States, only 45 percent of persons classified as discouraged workers in 1994 had become a part of the labor force in 1995, but the labor force attachment of discouraged workers had become stronger than before.

[17] See Cohany, Polivka, and Rothgeb, "Revisions in the Current Population Survey."

[18] The Ministry of Labor in Japan (which became the Ministry of Health, Labor and Welfare in 2001) employed this method in order to compare the official unemployment rates in the United States and Japan in 1999. See "White Paper on Labor" (Tokyo, Ministry of Labor, 1999), in Japanese; English summary available on the Internet at **http://www.jil.go.jp/bulletin/summary/index.htm**.

[19] According to International Labor Office recommendations, persons who are laid off, but who have a weak attachment to the labor force (as in the United States), should be counted as unemployed, whereas those who are laid off, but who have a strong attachment to the labor force (as in Japan), should be enumerated as employed. (See "Resolution concerning statistics of the economically active population, employment, unemployment and underemployment, adopted by the Thirteenth International Conference of Labour Statisticians (October 1982)," on the Internet at **http://www.ilo.org/public/english/bureau/stat/res/ecacpop/htm**.)

[20] See Constance Sorrentino, "International unemployment rates: how comparable are they?" *Monthly Labor Review*, June 2000, pp. 3–20.

[21] According to the U.S. definitions, unpaid family workers who work fewer than 15 hours per week are outside the labor force. Although, in Japan, the category of "family workers" might include some paid family workers, all family workers who worked fewer than 15 hours per week are subtracted from the labor force in this adjustment.

[22] The number of members in the Self-Defense Forces can be obtained from the "Defense White Paper," published annually by the Defense Agency. In the Regular Survey, Self-Defense Forces members who reside in an official residence provided by the Defense Agency are included in the labor force, but in the Special Survey, they are not. In order to determine civilian unemployment rates, the number of mem-

bers of the Self-Defense Forces must be subtracted from the labor force. However, in the Special Survey, Self-Defense Forces members who reside in private housing might be included in the labor force. In consultations with the Statistics Bureau of Japan, Sorrentino learned that half of the members of the Self-Defense Forces reside in private housing. (See Constance Sorrentino, "International unemployment indicators, 1983–93," *Monthly Labor Review*, August 1995, pp. 31–50.)

[23] U.S. data are from the BLS website, **http://www.bls.gov/webapps/legacy/cpsatab8.htm**, which gives historical data on these measures. The most recent data are found at **http://www.bls.gov/news.release/empsit.t08.htm**. Data on the number of persons working part time for economic reasons, by sex, are not available at the website, so information was provided directly by the Bureau of Labor Statistics.

[24] In Japan, managers can legally dismiss employees with prior notice, but judicial precedents require objective and rational reasons that satisfy the following conditions: (1) the dismissal must be shown to be necessary; (2) efforts must have been undertaken to avoid dismissal; (3) the selection of those dismissed must have been carried out on a rational basis; and (4) the dismissal procedure must have been "appropriate."

[25] See, for example, Kazuo Koike, *Shigoto no Keizaigaku* (Tokyo, Toyo Keizai Shinposya), 1991; and T. Suruga, "Nihon Kigyo no Koyo Tyosei," in T. Suruga and H. Chuma, *Koyo Kanko no Henka to Zyosei Rodo* (Tokyo, Tokyo Daigaku Shuppankai, 1997).

[26] James Brooke, "Young People Feel a Chill in Japan's Hiring Season," *The New York Times*, Apr. 1, 2002, p. A3.

[27] According to the Regular Survey conducted in 2000 in Japan, there were 31,970,000 men employed in the nonagricultural sector. Out of that number, only 8,430,000 were working in companies employing 500 or more workers. (The figures include part-time workers.)

[28] A survey conducted in August and October 1998 by the Statistics Bureau of Japan supports this idea. The survey was a supplement to the Labor Force Survey and examined the job search activities of unemployed persons who lost or left their jobs in the previous year. The survey revealed that among 1,840,000 unemployed persons, 1,050,000 were men and 790,000 women. Also,

1. of persons older than 45 years, 490,000 men and 230,000 women lost or left their jobs;
2. of persons who were engaged in jobs that did not require skilled labor, 703,000 male non-white-collar workers, 240,000 female clerks, and 230,000 female non-white-collar workers lost or left their jobs; and
3. of persons who worked for small firms with fewer than 100 employees, 600,000 men and 430,000 women lost or left their jobs.

APPENDIX: Sorrentino's studies

This appendix briefly examines some of the work of Constance Sorrentino, an economist at the Bureau of Labor Statistics. Sorrentino has published many studies comparing international unemployment rates.[1] Her studies are representative of the field, and her results are accepted widely. Her studies on Japan are based on the former definitions and concepts of the CPS; she has not published any international studies based on the 1994 U.S. definitions.

In her 1983 article, Sorrentino compared the official unemployment rates, known as U–5 at the time, of the United States and Japan from 1977 through 1980, using annual average data from the CPS and using the March Japanese Special Survey. She also compared alternative unemployment rates U–6 and U–7 in both countries.

Sorrentino pointed out that Japan's official unemployment rate was underestimated slightly, but was still far below the U.S. official unemployment rate, even after the adjustment to U.S. definitions and concepts. She also pointed out that there was a noticeable difference in the adjusted unemployment rates for men and women in Japan. This difference indicated that Japan's official unemployment rate was overstated for men and understated for women. Sorrentino proposed that the reason for the difference was that, in Japan, men account for most inactive jobseekers who are reported as unemployed, while women account for the majority of jobseekers who are not in the labor force.

Sorrentino also demonstrated that broadening the concept of unemployment to account for persons working part time for economic reasons (U–6) did not reduce the difference between the United States and Japan, but that further broadening the concept to include discouraged workers (U–7) made the unemployment rates of the two countries converge. This means that Japan had larger proportionate increases in unemployment, as measured by U–7.

In interpreting these results, Sorrentino cautioned that, because March is a special month in Japan, Japanese firms traditionally take on new workers on April 1, and new graduates are prepared to enter the labor market on that date.

Sorrentino updated her results several times. In 1987, she analyzed data from the CPS and data from the Special Survey conducted each February from 1984 through 1986. In 1989, the data she analyzed were from the CPS and from the Special Survey conducted each February from 1984 through 1988. Together with Elder, in 1993 she analyzed data from the CPS and from the Special Survey conducted each February from 1984 through 1992. All of these studies confirmed her initial findings and, using the February data for Japan, left her conclusions basically unchanged.

In 1993, Sorrentino compared the alternative unemployment rates U–1 through U–7 of nine developed countries, including Japan. (Exhibit A–1 gives the definitions of the seven rates.) Using data from February 1990 for Japan and 1989 for the other countries, she pointed out that Japan's adjusted official unemployment rate U–5 was still the second lowest among the countries studied. She also demonstrated that Japan's expanded unemployment rate U–7, encompassing persons working part time for economic reasons and discouraged workers, was double the U–5 rate for men and quadruple U–5 for women.

In 1995, Sorrentino compared alternative unemployment rates U–1 through U–7 for 10 developed countries, including Japan, from 1983 to 1993. She expanded the length of the period studied because measures such as U–1 through U–7 have a large cyclical component and international relationships might change, depending on the phase of the business cycle in each country. The results reinforced her 1993 findings.

Sorrentino gave an explanation for Japan's higher relative ratio of U–7 to U–5: under the country's long-term employment system,

Exhibit A–1. Alternative unemployment rates, U1 through U7

Rate	Definition
U–1	Long-duration unemployment rate: Persons unemployed 15 or more weeks ÷ civilian labor force
U–2	Job loser rate: Job losers ÷ civilian labor force
U–3	Adult unemployment rate: Unemployed persons aged 25 years and older ÷ civilian labor force aged 25 years and older
U–4	Unemployment rate for full-time workers: Unemployed persons seeking full-time jobs ÷ full-time labor force
U–5	Official unemployment rate: Total unemployed persons ÷ civilian labor force
U–6	Rate encompassing persons working part time for economic reasons: Full-time jobseekers + ½ × part-time jobseekers + ½ × persons working part time for economic reasons ÷ civilian labor force − ½ × part-time labor force
U–7	Rate adding discouraged workers: U–6 plus discouraged workers in the numerator and denominator

SOURCES: Constance Sorrentino, "International comparisons of unemployment indicators," *Monthly Labor Review*, March 1993, pp. 3–24; and John E. Bregger and Steven E. Haugen, "BLS introduces new range of alternative unemployment measures," *Monthly Labor Review*, October 1995, pp. 19–26.

core workers employed by large and medium-sized companies are mostly male and regular full-time workers shielded from unemployment through employment adjustments, while part-time workers are mostly female or older workers. Such part-time workers tend to exit the labor market and leave the labor force without falling into a categorization of "unemployed."

Sorrentino maintained that a substantial part of Japan's labor underutilization was attributable to discouraged workers and other individuals who withdrew from the labor force and that these forms of labor slack did not show up in the country's official unemployment rate. She concluded that Japan's labor market was unique in its institutions and attitudes and that its structure was quite different from that of the United States.

One important fact relevant to Sorrentino's conclusions is that the magnitude of the male-female difference in the adjusted official unemployment rates had declined since 1984. The reduction in the number of jobseekers not in the labor force contributed to the reduction in the male-female difference. The number of such jobseekers in 1984 was one-third that in 1980. The Special Survey was conducted in March in 1980 and February in 1984. The number of jobseekers not in the labor force was relatively small in February, especially among women.

Footnote to the appendix

[1] See, for example, her *Monthly Labor Review* articles, "Japan's low unemployment: an in-depth analysis," March 1984, pp. 18–27; "Japanese unemployment: BLS updates its analysis," June 1987, pp. 47–53; "Adjusted Japanese unemployment rate remains below 3 percent in 1987–88," June 1989, pp. 36–38; "International comparisons of unemployment indicators," March 1993, pp. 3–24; "International unemployment indicators, 1983–93," August 1995, pp. 31–50; and, together with S. Elder, "Japan's low unemployment: a BLS update and revision," October 1993, pp. 56–63.

Measuring the complexity of hours at work: the weekly work grid

A new 'workweek grid' that allows researchers to pinpoint actual time at work, finds less than a third of French workers describe a regular 9- to-5 schedule; it also may account for the persistent discrepency between standard workweek estimate questions and more detailed methods of measuring the length of one's workweek

John P. Robinson,
Alain Chenu,
and
Anthony S. Alvarez

Accurate measures of time spent at work are becoming more crucial in the information societies of the 21st century. Variations in the number of hours that individuals spend working provide important evidence in comparisons of the quality of employment across occupations, countries, and time.

Thus, considerable academic and policy debate has centered on whether American workers, or workers in other countries are working more hours than workers did in the past.[1] Similar controversies have arisen about how work hours generate differential time pressures on women, versus men. Precise measures of work hours are also an important factor in determining worker productivity levels and trends—as in a recent study by the Bureau of Labor Statistics and the Bureau of Economic Analysis, which indicates that productivity measures constructed from surveys of employees showed similar growth rates to those constructed from employees' records.[2]

In various countries, and for many decades, government and other surveys have routinely asked workers simply to estimate how many hours they work either "per week," last week," or in a "typical week." Questions have arisen about the utility and interpretation of survey work-hour data using these standard work-hour estimate questions. Included in such discussions are concerns about how to handle paid breaks, mealtimes, and the commute to work—as well as how many hours the worker has to be at work (even if some of it is idle time), and other ways that "time spent at work" differs from "actual time spent working, or "expected time working."

In the United States, it appears that survey respondents answer these standard questions in less than 10 seconds—either due to the perceived similarity of their work hours from day-to-day or week-to-week, because of implied work arrangements with employers, or because workers provide answers in rough standardized hours based on societal or industry norms, like the 40-hour or 35-hour workweek.[3] Significant and consistent disparities have been found between these workweek estimates and the figures derived from comprehensive reports of work in worker "time-diaries" that detail all of their work during a typical day. These results have been replicated using data from nine other countries in which time-diary data were available to compare directly with work estimates.[4] (The estimate-diary discrepancy is graphically illustrated in chart 1.) Moreover, there is evidence that the gap between estimates and diary work hours have been increasing since the 1960s.[5]

Part of the reason for this gap may be the increased proportions of workers in the service sector of the economy, in which job requirements focus on nonstandardized tasks to be accom-

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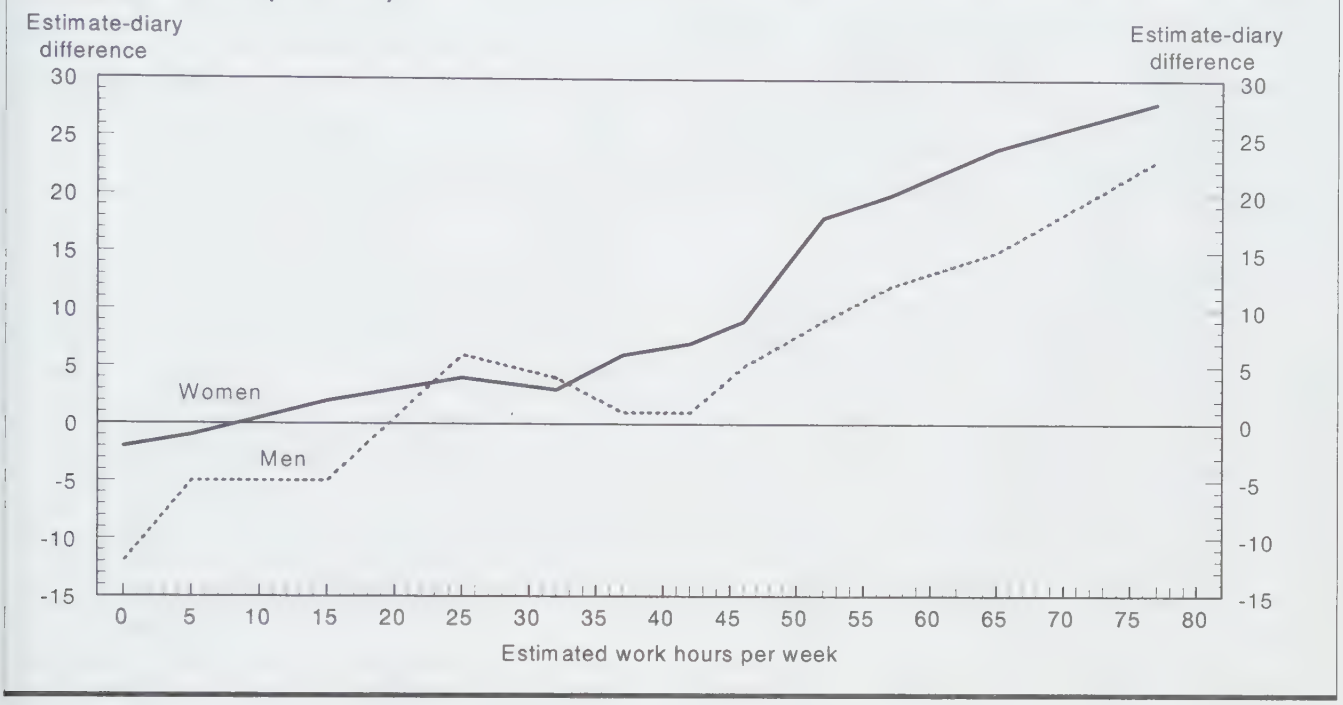
Chart 1. Values of the difference between estimated and diary work for men and women, 1985 data (in hours per week)



plished rather than precise numbers of hours worked. This is a factor that is extremely important in gauging worker performance in traditional manufacturing and other factory jobs. As the time clock becomes a less applicable measure of work accomplished, however, workers' ability to estimate their work hours might become a more challenging task. Added to this can be the increased variation in daily hours required in an increasingly globalized economy and the shorter job tenure for workers as they transfer more frequently from job to job, or work fewer routine hours per week. In brief, there is reason to suggest that work schedules are becoming more complex in today's changing economy, and that may make it more difficult to estimate actual work hours accurately.[6]

Working for pay is not the only daily activity subject to measurement discrepancies using the estimate approach. Both M. Marini and B. Shelton and J. Press and E. Townsley have found even more inaccurate respondent reporting when survey respondents estimated the hours spent doing housework.[7] In contrast to the 10-percent to 15-percent overestimates of time spent at work in relation to the diary, both sets of authors have found that the housework estimate task was overestimated by up to 50 percent—even when respondents were asked to estimate times doing specific housework tasks (for example, how long it takes to cook or do laundry) rather than the accumulated general hours doing housework overall. Far greater overestimation occurs when respondents are asked to estimate the time they spend doing volunteer work.

Thus, in societies in which work hours and job tenure seem to become more variable than previously, there is a need for more appropriately designed and more detailed survey instruments; methods that would help workers participating in employment surveys to recall their work hours more systematically and accurately. Current workweek estimate questions implicitly assume that survey respondents are able to add up accurately the hours they spend on each of the 7 days of the week in order to provide accurate estimates of their workweek. The 3 to 10 seconds that most respondents take to answer such questions suggest that:

- Few workers take the effort and time to recollect each day's activity across the previous week—that is, to sum up their weekly hours in order to provide a complete, thoughtful, and accurate estimate
- Worker respondents resort to "satisficing" techniques to provide these weekly estimates, such as relying on general societal/organization norms or informal agreements with their employers about what work time is expected

These shortcuts would not represent unusual strategies for survey respondents. Indeed, J. Krosnick has developed a general model of respondent satisficing to explain many of the disparate findings in the voluminous literature on the sources of problems that arise when survey respondents encounter and attempt to navigate through the broad mixture of

questions that arise in the survey context.[8]

Problems with time estimates

The various steps survey respondents take in answering the standard time-estimate questions may cause various problems in producing accurate estimates. Asking someone, "How many hours do you work?" implicitly assumes that each respondent:

- Interprets "work" the same way
- Separates work as the most important activity (the primary activity) from other activities that are taking place simultaneously, but are ancillary or less important than other activities (secondary activities), such as socializing or attending to the media, while doing housework
- Undertakes a searching of memory for all episodes of work for each "yesterday" over the prior week
- Is able to properly add up all the episode lengths across the 7 yesterdays compromising the last week
- Feels comfortable describing this duration to an interviewer when it may not be a typical day or week
- Avoids reverting to social norms, stereotypes, or images of themselves about how much a "normal" person or "good worker"ought to work, like the normal 40-hour workweek

Any of these obstacles may be problematic in obtaining completely accurate responses regarding time use. This is particularly true in the survey context, in which respondents are expected to provide on-the-spot answers in a few seconds. What seems at first to be a simple estimate task turns out to involve several steps that are quite difficult to perform, even for a respondent with regular and clear work hours and a repetitive daily routine.

One consequence is that, when asked to provide daily and weekly estimates of a full range of daily activities, survey respondents give estimates that add up to considerably more than the 168 hours of time each person has available each week. In the studies of L. Verbrugge and D. Gruber-Baldine, average estimated weekly time across a comprehensive spectrum of behaviors totaled 187 hours, even though their list of activities did not include activities such as attending religious services, shopping for durable goods or professional services, and participating in adult education.[9] In another national survey, Hawes and others estimated weekly activities that averaged more than 230 hours; and, in total time-estimate studies of college students, the totals often exceeded more than 250 hours per week.[10] Thus, the survey estimate approach seems to have a built-in bias toward over-reporting, particularly for more socially desirable activities such as working or volunteering.

Basically, time-estimate questions yield the same types of problems that arise from expecting respondents to answer any "simple" question put to them. Survey research practice customarily involves accepting answers from respondents on almost any type of question. Often, these answers provide quite misleading results, as in the case of the survey question—"Where do you get most of your news information?" Although most respondents answer, "television," more detailed studies of actual information acquisition find television viewers turned out to be *less* likely than users of other media to have received news information from television.[11] This "simple" estimate question, then, asks for multiple and complex information and judgments (such as comparing news information across media or summing work hours across 7 days) that seems largely beyond the ability of most survey respondents to recall accurately in the manner expected.

Because of these difficulties, time-diary studies take a "micro-behavioral" approach to such questions, breaking each part of the question into easier and more answerable components of that micro-level behavior. Rather than ask about a vague or lengthy reference period, such as an "average" week, a "typical" day, or even "last week," respondents are asked to provide a step-by-step account of all their activities "yesterday;" the complete day freshest in their memory.

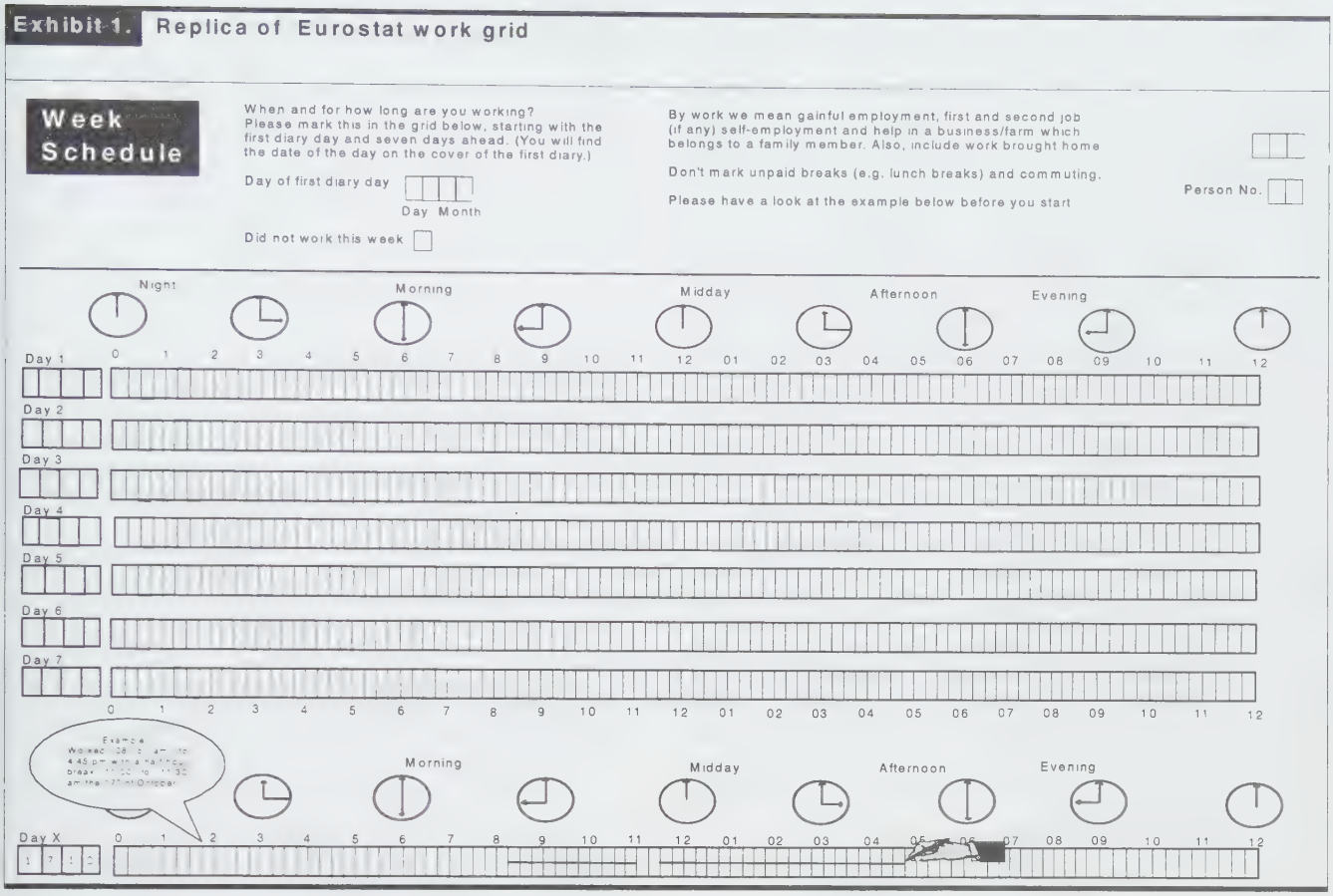
As an example, the popular survey question, "How many hours of TV do you watch on an average day?" (used in surveys by the Roper Organization, the General Social Survey among other survey firms) has consistently generated an average estimate of about 3 hours a day. However, when one study also asked these same respondents, "How many hours of TV did you watch yesterday?" and included all days of the week, the average was closer to 2.5 hours for that "average day."[12] One possible reason for this response discrepancy in the two questions was that more respondents reported zero hours "yesterday" than on an average day, indicating that these respondents translated the "average day" question frame of reference into "the average day *that you watch TV.*" The "average" day thus becomes one in which television is viewed and not the occasional day when none was seen. These subtle respondent behaviors subvert the ability of researchers to provide accurate estimates.

Improving the workweek measures

To overcome problems with the work estimate question by making the respondent's task more micro-behavioral and thus more manageable (and by addressing concerns about respondent satisficing),[13] a Eurostat committee studying time use in general developed a "workweek grid" that implicitly met the following criteria to improve the workweek measure:

- Broke the reporting task into a more manageable and com-

Exhibit 1. Replica of Eurostat work grid


Week Schedule
When and for how long are you working? Please mark this in the grid below, starting with the first diary day and seven days ahead. (You will find the date of the day on the cover of the first diary.)
Day of first diary day
Day Month
Did not work this week
By work we mean gainful employment, first and second job (if any) self-employment and help in a business/farm which belongs to a family member. Also, include work brought home
Don't mark unpaid breaks (e.g. lunch breaks) and commuting.
Please have a look at the example below before you start
Person No.
Night
Morning
Midday
Afternoon
Evening
Day 1
Day 2
Day 3
Day 4
Day 5
Day 6
Day 7
Example
Day X

prehensible "per day" basis, rather than asking respondents to recall events over the entire 168 hours of the week

- Focused on each specific day over a *particular* 7-day period
- Asked respondents to record only the time each workday began and ended (rather than asking them to make the (usual p.m. minus a.m. subtraction) time calculation themselves
- Provided room on the survey to isolate lunch breaks and other episodes of nonwork during the day
- Used graphic reporting forms to allow visual ease of reporting to improve respondent comprehension of the reporting task required

Exhibit 1 shows a general work grid, based on recommendations from the Eurostat time-use committee. The work grid can be used to address these criteria in the following ways. First, respondents are shown an overview of the week and then asked to report their workweek in that 168-hour daily context. They are only required to report beginning and ending times at work each day (thus removing any respondent ambiguity about including commuting hours as part of work), with explicit provision of instructions to exclude lunch and other work breaks.

In the French study, respondents received a slightly modified work grid prior to the survey week, so they could fill it out for each day of the following week, and mail back the completed forms in a self-addressed envelope at the end of the week. The first day of reporting was for the interviewer to visit the respondent. Each of the 7 reporting days had quarter-hour segments in cumulative "military time," from 0 (midnight) through 12 (noon) through 24 (the next midnight). Respondents were asked to mail the survey back to the firm, along with the surveys from each working member of the household. Each worker in the household, then, was expected to keep an exact account of work hours for each day. (Note in exhibit 1, the instructions explicitly inform respondents that they are not to include meals, breaks, or commute times as part of work, and the example line at the bottom of exhibit 1 shows a work day that is divided into two segments. That respondents understood this need to break up workdays is evidenced in the complex patterns found in the b and c portions of exhibit 2.) French respondents also were asked whether the week in question was a normal workweek, was it devoted to meetings, or was it otherwise irregular.

Eurostat and the week grid. The idea of incorporating a workweek grid in time-use surveys originated from a Eurostat meeting of the Unit on Employment of the European Community Commission (Group V) in 1994. These researchers, in preparing and coordinating the European Time Use Surveys (ETUS) planned to begin in most European countries in 1999,

were interested in measuring *patterns* of weekly working hours as well as amounts. The weekly grid was created in cooperation with Statistics Sweden and pretested in Sweden and Italy in 1995. After a successful pretest, the weekly grid was included in the pilot surveys of several European countries during the 1996–97 period. Employed respondents started the grid on the first (diary) day and estimated their work hours for the prior 6 days. A total of 1,604 persons (aged 15 and older) filled a weekly grid and at least one comparable 1-day complete time diary. After the pilot survey, certain countries, such as France and Finland, decided to include the weekly grid in their diary survey. For this analysis, the French 1998–99 national data represent the first Eurostat diary study available.

The 1998–99 French time-use survey. The French time-use survey, conducted between February 1998 and February 1999, was originally designed to include 20,000 individuals aged 15 and older in its sample. If any employed person lived in the household, the interviewer presented the workweek grid schedule and provided oral instructions about excluding lunch, work breaks, and commuting time from work time and including work brought home, self-employment, and help in family business. The respondents were asked to fill in the work grid, first for the interview day, and then asked to complete each day for 6 subsequent days. Respondents then mailed the grid back via pre-paid postage to the National Statistical Institute (Institut National de la Statistique et des Etudes Economique, or INSEE) 7 days later. This process relied less upon the respondents' recollection than did the Eurostat retrospective grid. Among those employed persons who completed a 1-day diary and who were reminded by telephone to do so, 79 percent (or about 60 percent of the original sample) returned the week grid to the National Statistical Institute. The estimate workweeks of those who responded differed little from those who did not.

The numbers of responses to the 1-day diary and to the workweek grid appear in table 1.

Table 1. Final sample disposition for French Diary Survey, 1998–99

	Work week grid		
	Total	Grid	No grid
Total	20,370	6,357	13,613
Nonrespondent[1]	5,286	...	5,286
Employed respondent	8,023	6,357	1,666
Nonemployed	7,061	...	7,061

[1] Individuals who failed to mail back the diary survey.

SOURCE: Institut National de la Statistique et des Etudes Economique, (National Statistical Institute, or INSEE).

Results

Overall averages. Comparisons of three measures of hours per week—diary, work grid, and estimate—indicate that the largest average was from the estimate (39.4 hours), the lowest for the diary (35.8 hours), with the work grid in between (37.1 hours). (See table 2.) Thus, the grid and diary figures are within 1.3 hours of each other, but the grid is 2.3 hours lower than the estimate and the diary is 3.6 hours lower. This provides independent evidence that simple workweek estimate questions provide overestimates, here, more like 6 percent, versus about 10 percent in relation to the diary.

The next 4 rows in table 2 show the grid and diary figures relative to the estimate figures for full-time, versus part-time workers, and for men, versus women. On the one hand, the disparity is much greater for full-time workers than for part-time workers, and indeed is not found (or is negative) among part-time workers—consistent with the earlier comparisons between the estimate and diary figures shown in chart 1 for American workers.[14]

On the other hand, the gaps are rather similar for male and female workers overall in the next two rows of table 2. The last four rows of table 2 compare full-time and part-time workers among men and women. These figures also show that among full-time employed workers, the gaps between estimates and the diary and grid for women are about as hour higher than for men.[15] In other words, the workweek estimates of full-time employed women are further from those of the diary/grid figures, compared with those figures found among full-time employed men. Female workers seem slightly more prone to overestimate. Among part-time workers, however, a rather different pattern emerges. For women, there is a notable consistency in three sets of figures, whereas for men, the workweek estimates are strikingly lower (24.5 hours from the estimate, versus 31 hours both for the diary and grid). This reinforces earlier U.S. studies that found that men who are "underemployed" do report working more hours in time diaries than they estimate.

Chart 2 graphically presents the disparities between the estimated hours and both the diary and the workweek grid hours from the French sample. The work grid picks up much the same pattern ("The greater the estimate, the greater the overestimate.") found for diary-estimate data in chart 1.[16] The pattern is, again, slightly different for women than for men. For respondents who estimate working 50 hours or more per week, the diary figures are higher than the grid figures for men, whereas the grid figures are higher than the diary figures for women working more than 50 hours. At lower estimated work hours, the grid figures are slightly higher than diary figures relative to estimates for both men and women. Nonetheless, the same patterns found in chart 1, based on earlier U.S. diary-estimate discrepancies, are in evidence for diary-estimate and grid-estimate discrepancies in these 1998–99 French data. This provides independent evidence of the problems of probable overestimation in the workweek estimate question. A possible reason for these discrepancies

Table 2. Three measures of hours at work per week, by characteristics of worker, French Diary and Time-Use Survey, 1999–99

Characteristic	Length of paid work			Gaps between—		
	Number	Diary[1]	Work week grid[2]	Estimated[3]	Estimated and diary	Estimated and work week grid
Total sample	6,349	35.8	37.1	39.4	3.6	2.3
Full time	5,191	38.3	39.7	42.7	4.4	3.0
Part time	1,158	25.0	25.6	24.7	–.3	–.9
Men	3,455	39.4	40.9	43.0	3.6	2.1
Women	2,894	31.4	32.5	34.9	3.5	2.4
Men, full time	3,278	39.9	41.4	44.0	4.1	2.6
Men, part time	177	31.4	31.2	24.5	–6.9	–6.7
Women, full time	1,913	35.5	36.6	40.3	4.8	3.7
Women, part time	981	23.8	24.6	24.8	1.0	.2

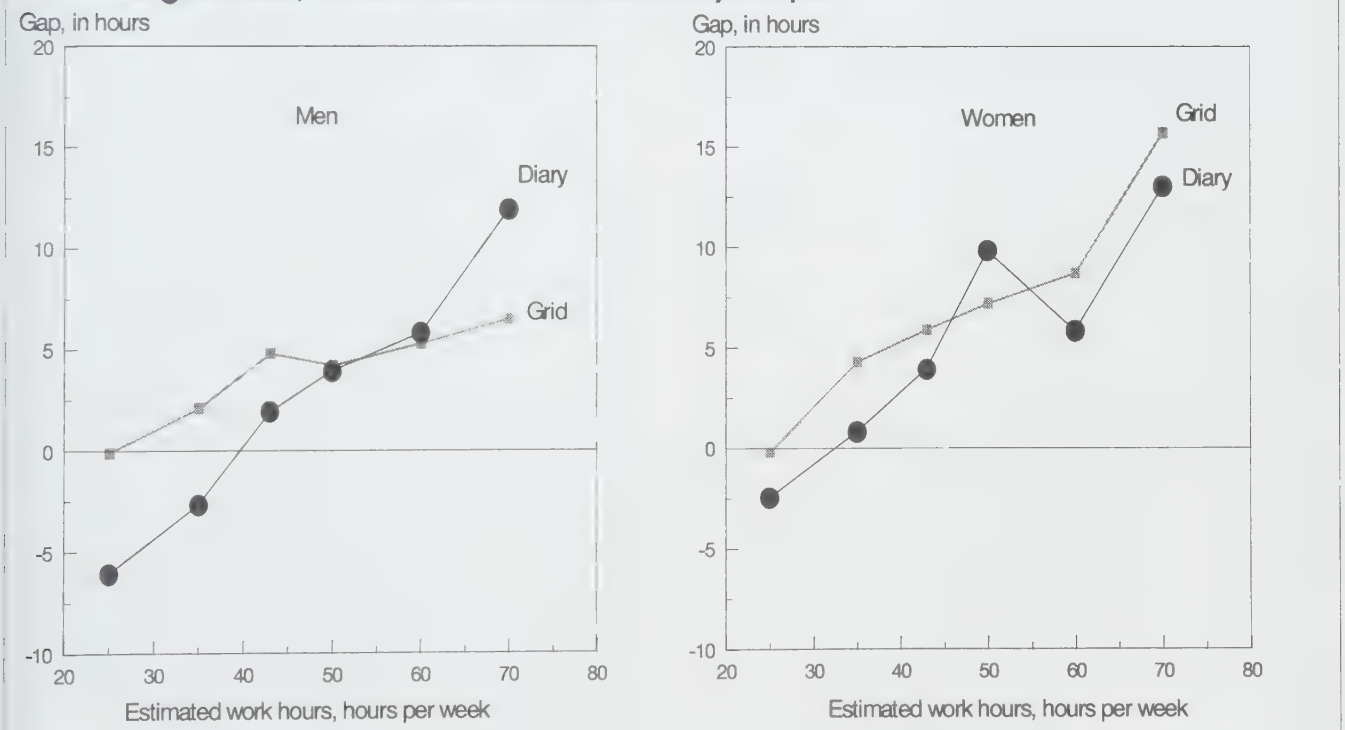
[1] Only days are observed in the 1-day diary; here, the length of work for 1 week is the sum of the 7 observed means covering all the days of the week (Monday, Tuesday, and so forth).

[2] Length of work in the week grid.

[3] Self-estimated length of paid work (hours per week, source: question arithmetic mean of two estimates, one minimum and one maximum).

SOURCE: Institut National de la Statistique et des Etudes Economique, (National Statistical Institute), INSEE, 1998–1999 Time Use Survey (weighted data).

Chart 2. Differences between estimated and diary work hours and estimated and workweek grid hours, 1998–99 French Time-Use Survey sample



SOURCE: The National Statistical Institute (Institut National de la Statistique et des Etudes Economique or INSEE), 1998–99 Time Use Survey.

based on other work grid evidence is examined next.

Patterns of individual workweeks. In addition to providing an independent measure of the length of the workweek, the completed work grid contains an extremely rich and complex set of information about each respondent's workweek.

An analysis of these schedules was undertaken, with special attention to the question of the regularity of workweek schedules and the proportion of workers who followed a traditional and stereotypical "9-to-5" type schedule. One approach, which involved four criteria to define such regularity, was applied to the entire sample of more than 6,300 work grids. These criteria were:

- Workweek lengths between 35 and 44 hours
- Five consecutive days of work, Monday through Friday
- No night work
- No weekend work

Using these criteria, only 27 percent of full-time workers had a "regular" workweek. If the consecutive days were to include a Saturday or Sunday, the proportion rises to 32 percent. If stricter criteria were applied, such as a rigid 9 a.m. to 12 a.m. (noon) and 1 p.m. to 4 p.m. each day, the rate of regularity becomes close to zero.

It is possible to illustrate these patterns in exhibit 2. Because of the time-consuming and somewhat arbitrary nature of this process, however, it was necessary to limit such analyses to a small random subset of the obtained work grids. Therefore, a random sample of 50 of these grids was selected and was subjectively sorted into three work-pattern categories, described as "regular," "less regular," and "irregular." Subsequent random samples of 50 were drawn that produced similar results, with about a third of grids falling in each category.

Exhibit 2 provides a sample of 17 of these 50 grids that typify the three categories. In the "regular" category (a), the two respondents with the closest to 9-to-5 patterns are an information operator and a vocational teacher. Respondents in the other three occupations show notable departures from complete predictability day-to-day. In the "less regular" work-pattern category (b), the five patterns seem to vary markedly from day to day among most of the respondents. In the final irregular work-pattern category (c), the seven daily patterns among the respondents diverge even more markedly. In other words, about as many workers reported rather irregular schedules as regular schedules, and the remainder reported schedules that were at least somewhat irregular.

Thus, it is clear that most of these French employed respondents who might be asked on the spot to provide an overall estimate of their hours of work over the selected weekly period are faced with a rather daunting task, given the large number of "workdays" in which no work is reported offset by the large number of days in which the workday exceeds 8 hours. If respondents choose the simple heuristic, which we may presume they would use (such as calculating some average hour-per-day figure and multiply it by the number of days worked), many of them would have to calculate a sophisticated average across workdays—days that vary markedly in character and duration.

It would not be surprising, then, that to reasonably answer the question, "How many hours did you work during the week?," they would likely need to fall back on simple normative responses or employer expectations (like the standard 35- to 40-hour figure) in replying to the question. Moreover, so few respondents in have the luxury of regular schedules (as illustrated in exhibit 2) that researchers should not expect accurate estimates—even from respondents conscientious enough to simply multiply average daily hours by days worked.

Values of the grid

Analysis of a new and more detailed approach to measuring hours at paid work indicates that graphic techniques, such as the work grid, can help to make the definition of actual work time (which excludes commuting, lunch, and other break times) more expilcit. More importantly, graphic techniques can be used to document what appears to be work days that are unusually short or long in the context of the worker's full workweek.

The weekly grid thus suggests that there is great day-to-day variation in work hours both within and across individuals. Less than a third of respondents in the French national survey worked a schedule that could be characterized as "regular," and only 7 out of a randomly sampled 50 employees describe something close to the stereotypical 9- to-5 weekday schedule, presumed to apply to most workers. Instead, most work schedules fit into rather irregular patterns, which may explain why workers have difficulty answering the standard workweek question typically used in employment and more general surveys (particularly in the 3- to 10-second response period that respondents in U.S. surveys use to reply).

These findings reaffimed results from earler time-diary studies conducted in the Netherlands, which reveal that workweeks in modern societies follow a bewildering variety of patterns—schedules that make it difficult for survey respondents to come up with reasonably accurate estimates of the hours they work.[17] As more workers work in less standardized environments, in time-intensive service industries, for multiple employers, in a 24-hour 7-day global economy, and under varying seasonal conditions, answering simple, traditional workweek estimate questions will become more difficult for them. Thus, the workgrid is a very useful survey vehicle, which could be used to examine whether workweeks in the United States are as diverse as they are in Western Europe.

As with the most detailed time-estimatimg procedures of the full-time diary, work hours reported in the grid are significantly lower than those reported in response to traditional workweek estimate questions. Moreover, work grids show the same tendency for progressively greater overestimating among workers estimating longer workweeks (charts 1 and 2). Such overestimating patterns cannot be explained simply by

Exhibit 2. Examples of randomly selected workweek grids, grouped into three categories of workweek regularity, 1998–99 French Time-Use Survey

a) Regular workweeks

Dia[1]	We[2]	We7[3]	Est[4]	D[5]	Occupation
	...	90.0	73		**Farmer**
...	12.5	...	...	1	
...	12.5	...	...	2	
...	12.8	...	...	3	
12.8	13.8	...	...	4	
...	12.8	...	...	5	
...	12.5	...	...	6	
...	13.3	...	...	7	
	...	65.5	60		**Cattle breeder**
...	8.5	...	...	1	
...	9.5	...	...	2	
...	8.5	...	...	3	
...	11.5	...	...	4	
10.3	9.5	...	...	5	
...	8.5	...	...	6	
...	9.5	...	...	7	
	...	40.0	38		**Information operator**
...	8.0	...	...	1	
...	8.0	...	...	2	
...	8.0	...	...	3	
...	8.0	...	...	4	
7.8	8.0	...	...	5	
...	.0	...	...	6	
...	.0	...	...	7	
...	...	40.0	18		**Vocational teacher**
...	8.0	...	...	1	
8.0	8.0	...	...	2	
...	8.0	...	...	3	
...	8.0	...	...	4	
...	8.0	...	...	5	
...	.0	...	...	6	
...	.0	...	...	7	
	...	79.0	50		**Farmworker**
...	12.0	...	...	1	
...	12.0	...	...	2	
...	12.0	...	...	3	
...	12.0	...	...	4	
...	12.0	...	...	5	
...	12.0	...	...	6	
7.0	7.0	...	...	7	

b) Less regular workweeks

Dia[1]	We[2]	We7[3]	Est[4]	D[5]	Occupation
	...	18.5	16		**High school administrator**
...	.0	...	...	1	
...	2.5	...	...	2	
.0	8.0	...	...	3	
...	8.0	...	...	4	
...	.0	...	...	5	
...	.0	...	...	6	
...	.0	...	...	7	

See notes at end of exhibit.

Exhibit 2. Continued—Examples of randomly selected workweek grids, grouped into three categories of workweek regularity, 1998–99 French Time-Use Survey

b) Less regular workweeks

Dia[1]	We[2]	We7[3]	Est[4]	D[5]	Occupation
	...	21.5	30		**English teacher**
...	5.0	...	...	1	----------wwwwwwww----wwww----wwwwwwww----------
...	3.3	...	...	2	----------wwwwwwwwwwwww----------
...	.0	...	...	3	----------
...	5.8	...	...	4	----------wwwww-------wwwww---wwwwwwwwwwwww----------
4.3	4.3	...	...	5	----------wwwwwwwwwwwwwww----------
...	3.3	...	...	6	----------wwwwwwwwwwww----------
...	.0	...	...	7	----------
...	...	30.0	35		**Nurse**
...	7.0	...	...	1	wwwwwwwwwwwwwwwwwwwwwwwwwww----------
...	.0	...	...	2	----------
...	3.0	...	...	3	----------wwwwwwwwwww
9.5	10.0	...	...	4	wwwwwwwwwwwwwwwwwwwwwwwwwww----------wwwwwwwwwww
...	7.0	...	...	5	wwwwwwwwwwwwwwwwwwwwwwwwwww----------
...	.0	...	...	6	----------
...	3.0	...	...	7	----------wwwwwwwwwww
...	...	31.3	35		**Nurse supervisor**
...	6.5	...	...	1	----------wwwwwwwwwwwwwwwwwwwwwwwww
9.8	7.5	...	...	2	----------wwww----------wwwwwwwwwwwwwwwwwwwwwwww
...	7.3	...	...	3	----www----------wwwwwwwwwwwwwwwwwwwwwwww
...	8.3	...	...	4	wwwwwww----------wwwwwwwwwwwwwwwwwwwwwwww
...	1.8	...	...	5	wwwwwww----------
...	.0	...	...	6	----------
...	.0	...	...	7	----------
	...	28.0	30		**Arts professor**
...	5.3	...	...	1	----------wwww----------wwwwwwwwwwwwwwwww----------
...	7.8	...	...	2	----------wwwwwwwwwwwwwwww------wwwwwwwww----wwwwww----------
...	4.5	...	...	3	----------wwwwwwwwwwwwwwwwww----------
5.5	6.3	...	...	4	----------wwwwwwww-wwwwwwwwwwwwwwww----------w---------
...	4.3	...	...	5	----------wwwwwwwwwwwwwwwww----------
...	.0	...	...	6	----------
...	.0	...	...	7	----------

c) Irregular workweeks

Dia[1]	We[2]	We7[3]	Est[4]	D[5]	Occupation
	...	32.3	40		**German teacher**
...	7.8	...	...	1	----------wwwwwwwwwwwwwwwww--wwwwwwww-------wwwwww----------
...	8.0	...	...	2	----------wwwwwwwwwwwwwwwww-----wwww----------wwwwwwwwwww----
...	2.8	...	...	3	----------wwwwww----------wwwww----------
8.7	7.3	...	...	4	----------wwwwwwwwwwwwwwwww--wwwwwwww----wwww----------
...	4.5	...	...	5	----------wwwwww----------wwwwwwwwwwww----
...	.0	...	...	6	----------
...	2.0	...	...	7	----------wwwwwwww----------
...	...	36.0	37		**Clerk**
...	.0	...	...	1	----------
...	7.3	...	...	2	----------wwwwwwwwwwwwwww---wwwwwwwwwwwwwww--------
8.0	8.0	...	...	3	----------wwwwwwwwwwwwwwwwwwwwwww-----wwwwwwwww----------
...	4.5	...	...	4	----------wwwwwwwwwwwwwwwww--------
...	9.0	...	...	5	----------wwwwwwwwwwwwwwwwwww------wwwwwwwwwwwwwwww----------
...	7.3	...	...	6	----------wwwwwwwwwwwwwwwww---wwwwwwwwwwwww----------
...	.0	...	...	7	----------

See notes at end of exhibit.

Exhibit 2. Continued—Examples of randomly selected workweek grids, grouped into three categories of workweek regularity, 1998–99 French Time-Use Survey

c) Irregular workweeks

Dia[1]	We[2]	We7[3]	Est[4]	D[5]	Occupation
...	...	39.8	35		**Glassworker**
...	8.3	...	...	1	--WWWWWWWWWWWWWWWWWW----------WWWWWWWWWWWWWWWWW
...	4.3	...	...	2	--WWWWWWWWWWWWWWWWWW----------
...	.0	...	...	3	----------
...	7.5	...	...	4	----------WWWWWWWWWWWWWWWWW--WWWWWWWWWWWWWWW----------
...	7.5	...	...	5	----------WWWWWWWWWWWWWWWWW--WWWWWWWWWWWWWWW----------
...	4.0	...	...	6	----------WWWWWWWWWWWWWWWWW
7.0	8.3	...	...	7	--WWWWWWWWWWWWWWWWW----------WWWWWWWWWWWWWWWWW
...	...	51.5	39		**Machine operator**
...	8.3	...	...	1	WWWWWWWWWWWWWWWWWWWW----------WWWWWWWWWWWWW
...	8.3	...	...	2	WWWWWWWWWWWWWWWWWWWW----------WWWWWWWWWWWWW
...	.0	...	...	3	----------
8.0	9.0	...	...	4	----------WWWWWWWWWWWWWWWWWWWWWWWWWWWWWWWW----------
...	9.0	...	...	5	----------WWWWWWWWWWWWWWWWWWWWWWWWWWWWWWWW----------
...	9.0	...	...	6	----------WWWWWWWWWWWWWWWWWWWWWWWWWWWWWWWW----------
...	8.0	...	...	7	WWWWWWWWWWWWWWWWWWWW----------WWWWWWWWWWWWW
...	...	40.5	39		**Oven operator**
...	4.3	...	...	1	----------WWWWWWWWWWWWWWWWW
...	4.0	...	...	2	WWWWWWWWWWWWWWWW----------
...	8.3	...	...	3	----------WWWWWWWWWWWWWWWWWWWWWWWWWWWWWW----------
...	8.3	...	...	4	----------WWWWWWWWWWWWWWWWWWWWWWWWWWWWWW----------
...	.0	...	...	5	----------
...	8.0	...	...	6	----------WWWWWWWWWWWWWWWWWWWWWWWWWWWWWW----------
7.8	7.8	...	...	7	----------WWWWWWWWWWWWWWWWWWWWWWWWWWWWWW----------
...	...	59.3	35		**Fitter**
...	8.3	...	...	1	----------WWWWWWWWWWW-WWWWWWWWWWW-WWWWWWWWWW----------
...	8.5	...	...	2	----------WWWWWWWWWWWWWWWW--WWWWWWWWWWWWWWWW--
9.0	9.0	...	...	3	----------WWWWWWWWWWWWWWWW--WWWWWWWWWWWWWWWW--
...	8.5	...	...	4	----------WWWWWWWWWWWWWWWW--WWWWWWWWWWWWWWWW--
...	8.5	...	...	5	----------WWWWWWWWWWWWWWWW--WWWWWWWWWWWWWWWW--
...	8.3	...	...	6	----------WWWWWWWWWWW-WWWWWWWWWWW-WWWWWWWWWW----------
...	8.3	...	...	7	----------WWWWWWWWWWW-WWWWWWWWWWW-WWWWWWWWWW----------
...	...	56.5	38		**Quality controller**
...	12.3	...	...	1	----------WWWWWWWWWWWWWWW---------WWWWWWWWWWWWWWWWWWWWWWWWWWWW----------
...	8.5	...	...	2	----------WWWWWWWWWWWWWWWWWWWWWWWWWWWWWWWWWWWW----------
...	8.3	...	...	3	----------WWWWWWWWWWWWWWWWWWWWWWWWWWWWWWWW----------
9.5	7.0	...	...	4	----------WWWWWWWWWWWWWWWWWWWWWWWWWWWW----------
...	0.0	...	...	5	----------
...	9.3	...	...	6	----------WWWW----------WWWWWWWWWWWWWWWWWWWWWWWWWWWW----------
...	11.3	...	...	7	----------WWWWWWWWWWW----------WWWWWWWWWWWWWWWWWWWWWWWWWWWW----------

[1] Dia = Length of paid work (source: diary), hours per day.
[2] We = 1-day length of paid work (source: week grid), hours per day.
[3] We7 = Total length of paid work (source: week grid), hours per week.
[4] Est = Self-estimated length of paid work (source: questionnaire), hours per week.
[5] D = Day of the week (1= Monday, 2 = Tuesday, and so forth).

NOTE: 1-day sequence ("—" = not working. "WWWWW" = working).

SOURCE: National Statistical Institute (Institut National de la Statistique et des Etudes Economique or INSEE, 1998–1999 Time Use Survey.

"regression to the mean," because they are found, whether the workweek estimate question bases "last week," a "typical week," or "in general" as the reference period.[18] Moreover, "the regression to the mean" argument cannot explain why the gap between estimates and diary measures has been increasing across time.[19] Furthermore, as noted in the introduction, the pattern is also found for estimate questions regarding housework (and at a much more serious level for these activities), and thus appears as a function of time estimate questions generally.[20]

Workers who estimate longer hours *do* report working longer hours in both diaries and work grids. Thus, current workweek estimate questions may serve to separate workers with longer workweeks from those with shorter workweeks. However, the estimate data should not be accepted at face value as reflecting actual hours worked.

Another advantage of the graphic workweek grid is that it provides particularly enlightening insights into the lives of married couples, some of whom followed rather similar and synchronous husband and wife patterns—although, most did not. These are reviewed in the following article in this issue, along with a proposed formula to measure work schedule synchronicity among dual-earner couples. □

Notes

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[1] John P. Robinson and Ann Bostrom, "The overestimated workweek? What time diary measures suggest," *Monthly Labor Review,* 1994 August, pp. 11–23; J. Jacobs, Measuring time at work: are self-reports accurate? *Monthly Labor Review*, 1998 December, pp. 42–53; and J. Schor, *The Overworked American* (New York, Basic Books, 1991).

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[14] Robinson and Bostrom, "The Overestimated Workweek?" 1994.

[15] Robinson and Bostrom, "The Overestimated Workweek?" 1994 and Robinson and Gershuny, "Measuring Hours of Paid Work," 1995.

[16] Robinson and Bostrom, "The Overestimated Workweek?" 1994 and Robinson and Gershuny, "Measuring Hours of Paid Work," 1995.

[17] Robinson and Godbey, *Time for Life*, 1999.

[18] Robinson and Godbey, *Time for Life*, 1999.

[19] Jacobs, "Measuring time at work," 1998.

[20] In 2004, the Bureau of Labor Statistics plans to release hours estimates from its American Time Use Survey. Information provided from this source will help in understanding and explaining the perception that persons are working longer hours. See other articles on the American Time Use Survey in the February 2002 *Monthly Labor Review.*

Synchronicity in the work schedules of working couples

The work grids collected by the National Statistical Institute (INSEE) in France reveal a wide variety of ways that dual-earner couples schedule their work and family lives; also, a new index can be used to measure the extent of synchronicity in a couple's work hours

Alain Chenu
and
John P. Robinson

To provide insights into the divergent life schedules of married couples in modern societies, researchers in Europe developed a graphic work grid as a useful alternative to traditional work estimate questions.[1] One of the great values of having work grid schedules from both spouses in dual-earner households is that researchers can determine how married couples who have similar or different patterns of work hours engage in other activites.

This article illustrates one of many uses of work grid data. In addition, to determine the extent of any disparities between couples, this article presents a dissimilarity index, which quantifies gaps in work schedules. It analyzes dissimilarities across demographic characteristics and compares work patterns of "real couples," versus "random couples."

Work patterns of couples

Based on work grid data from the 1998–99 French Time-Use Survey from the National Statistical Institute (INSEE), exhibit 1 illustrates four types of husband-wife work grid patterns reflected in hours per week. The patterns range from couples having rather similar, synchronized schedules in part (A) to those having rather disparate, asynchronized schedules in part (D).

Thus, in exhibit 1 part (A), containing the most synchronized or congruent patterns, one can see two highly overlapping patterns, first for a husband who is a technician and his wife, a secretary—both of whom worked a 4-day week of about 34 hours. The next couple in part (A) is a foreman and a nurse, both of whom worked about a 44-hour workweek of 5 days. The highly synchronous nature of work schedules for both couples is clearly evident.

In contrast, the first CEO-lawyer couple in part (B) of exhibit 1 both work 6-day weeks of 45 hours or more, with hours on Sunday evening apparently used by both to prepare for the upcoming week. She has Wednesday off (while he is working), but both have considerable overlap on the other 4 weekdays (outside of her evening work). In the case of the second couple in part (B) (who each work about 40 hours), the cleaning-woman wife works later into the evening and on Saturday, compared with the schedule of her train-driver husband—but she has Monday afternoon off.

By contrast, the couples in parts (C) and (D) of exhibit 1 show far less overlap in their workweeks. For the first couple in part (C), the husband worked almost 100 hours over 7 days, while his wife worked 36 hours over 5 days. Her work hours all occurred during his work hours, but there are obviously many more hourly periods when he worked and she did not. The same is true for the second couple, a farm household in which the husband worked more than 60 hours and the wife worked less than 20 hours—although both put in a 6-day workweek. (Apparently in this case, the wife spends a considerable

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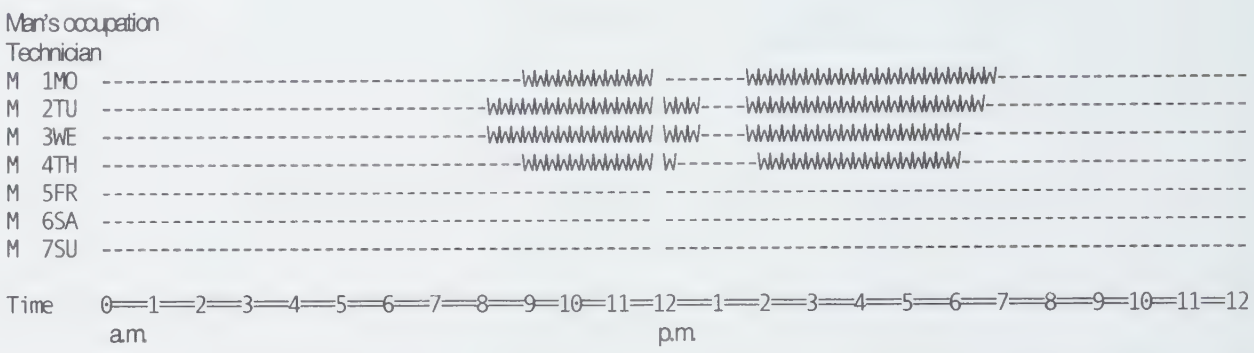
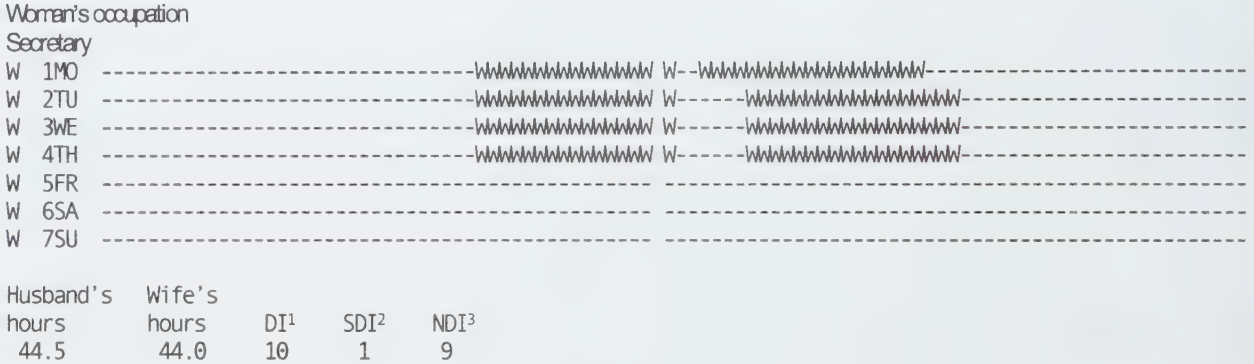
Exhibit 1. Workweek grid of eight couples, categorized into four types of husband-wife synchronization schedules, 1998–99 French Time-Use Survey

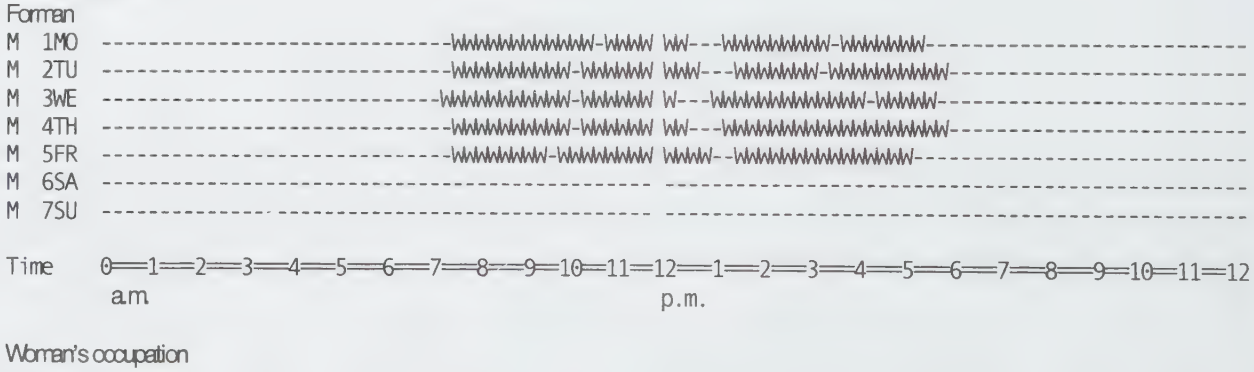
A. Two symmetrical synchronous couples

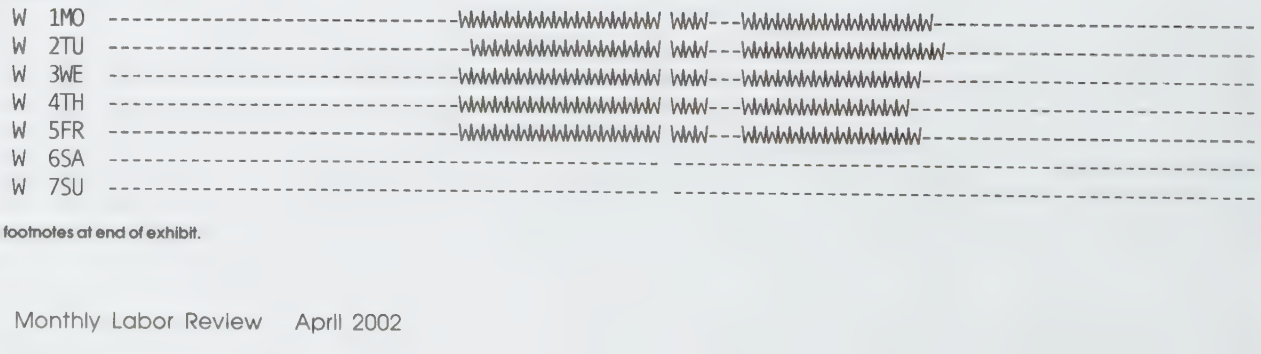
Husband's hours	Wife's hours	DI[1]	SDI[2]	NDI[3]
33.5	34.3	12	1	11





Husband's hours	Wife's hours	DI[1]	SDI[2]	NDI[3]
44.5	44.0	10	1	9



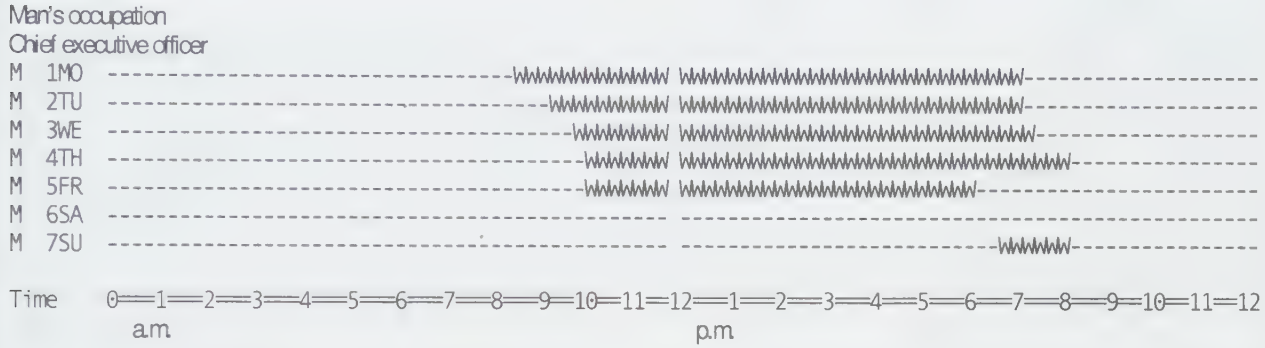


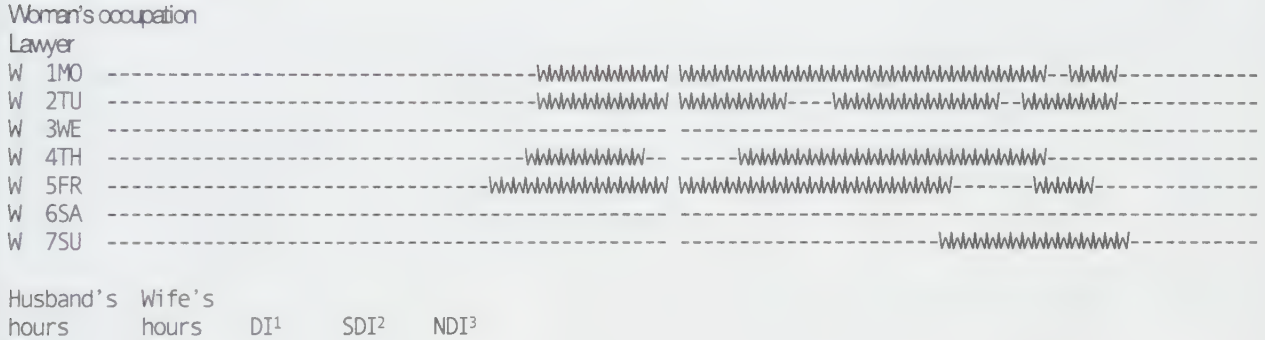
See footnotes at end of exhibit.

Exhibit 1. Continued—Workweek grid of eight couples, categorized into four types of husband-wife synchronization schedules, 1998–99 French Time-Use Survey

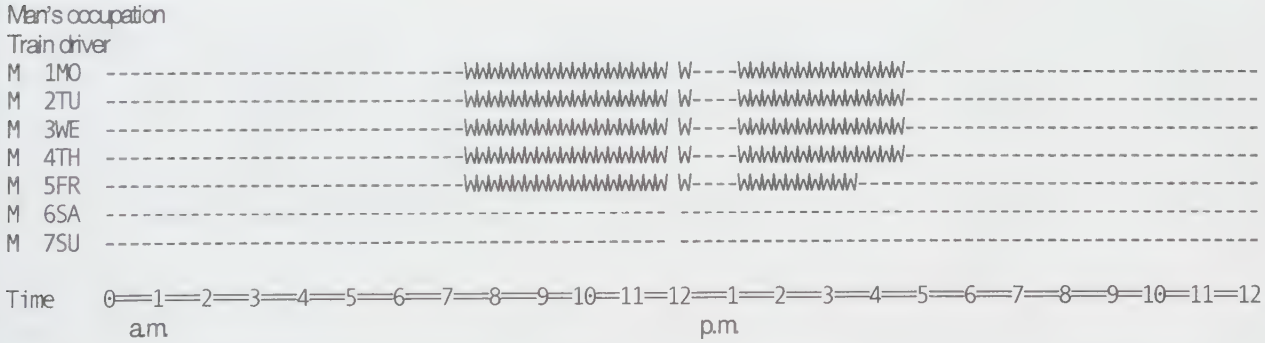
B. Two symmetrical semi-synchronous couples

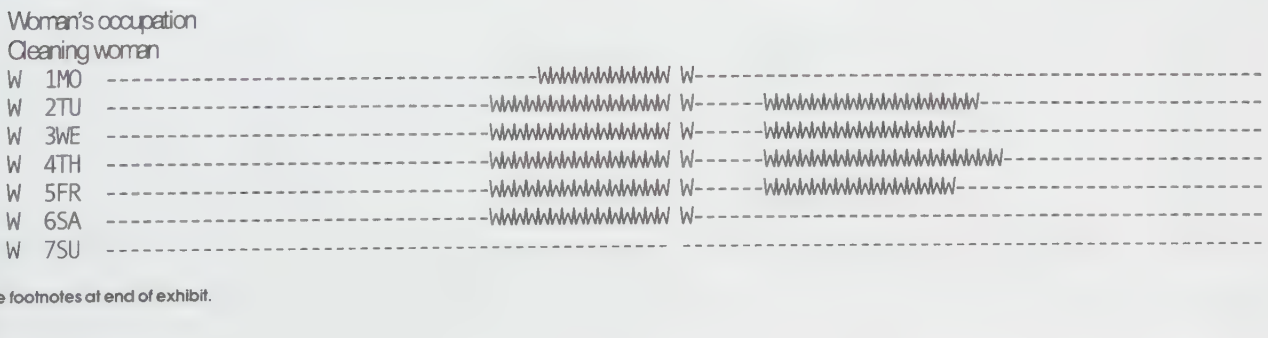
Husband's hours	Wife's hours	DI[1]	SDI[2]	NDI[3]
49.3	45.8	37	5	32





Husband's hours	Wife's hours	DI[1]	SDI[2]	NDI[3]
39.0	40.5	32	2	30



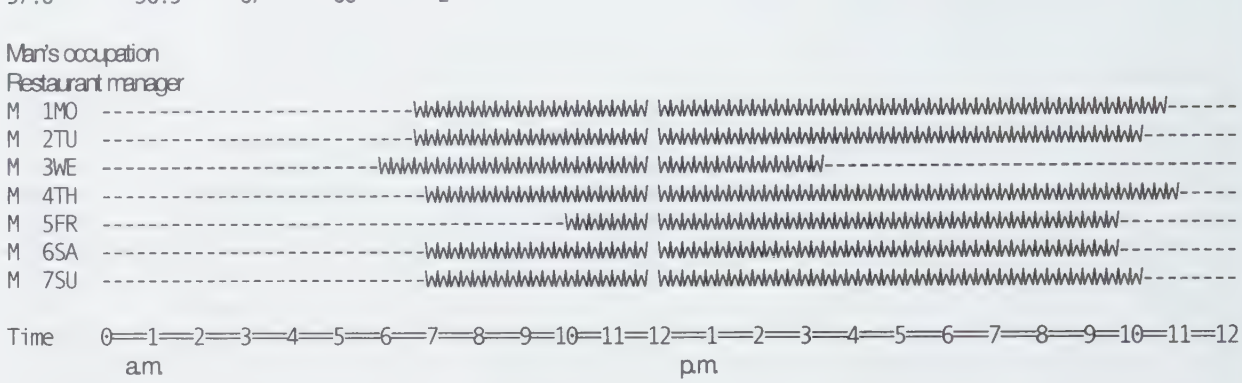


See footnotes at end of exhibit.

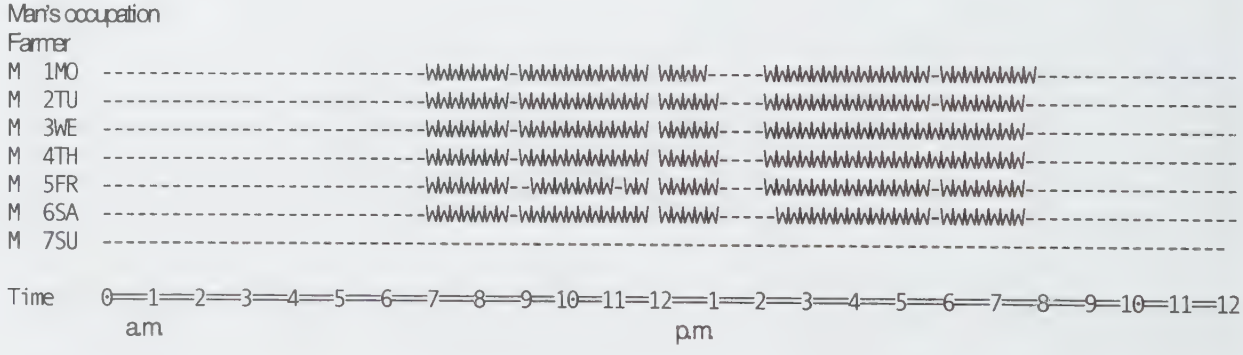
Exhibit 1. Continued—Workweek grid of eight couples, categorized into four types of husband-wife synchronization schedules, 1998–99 French Time-Use Survey

C. Two dissymmetrical synchronous couples

Husband's hours	Wife's hours	DI[1]	SDI[2]	NDI[3]
97.0	36.5	67	66	1



Husband's hours	Wife's hours	DI[1]	SDI[2]	NDI[3]
65.5	16.5	74	71	3



See footnotes at end of exhibit.

Exhibit 1. Continued—Workweek grid of eight couples, categorized into four types of husband-wife synchronization schedules, 1998–99 French Time-Use Survey

D. Two asynchronous couples

Husband's hours	Wife's hours	DI[1]	SDI[2]	NDI[3]
33.0	28.8	115	8	107

Man's occupation
Factory worker

```
M  1MO  ----------------------------------------------- ----------------------------------------WWWWWWWW
M  2TU  WWWWWWWWWWWWWWWWWWWWWWW----------------------- ----------------------------------------WWWWWWWW
M  3WE  WWWWWWWWWWWWWWWWWWWWWWW----------------------- ----------------------------------------------------
M  4TH  ----------------------------------------------- ----------------------------------------------------
M  5FR  ----------------------WWWWWWWWWWWWWWWWWWWWWW W-WWWWWW----------------------------------------------
M  6SA  ----------------------------------------------- ----------------------------------------WWWWWWWW
M  7SU  WWWWWWWWWWWWWWWWWWWWWW----------------------- ----------------------------------------------------

Time    0==1==2==3==4==5==6==7==8==9==10=11=12==1==2==3==4==5==6==7==8==9==10=11=12
          a.m.                                          p.m.
```

Woman's occupation
Postal employee

```
W  1MO  ----------------------------------------------- ----------------------------------------------------
W  2TU  ----------------------------------------------- -WWWWWWWWWWWWWWWWWWWWWWWW----------------------------
W  3WE  ------------------------WWWWWWWWWWW------------ ----------WWWWWWWWWWWWWWWWWWWWWWWW----------------------------
W  4TH  ----------------------------------------------- -WWWWWWWWWWWWWWWWWWWWWWWW----------------------------
W  5FR  ----------------------------------------------- -WWWWWWWWWWWWWWWWWWWWWWWW----------------------------
W  6SA  ----------------------------------------------- ----------------------------------------------------
W  7SU  ----------------------------------------------- ----------------------------------------------------
```

Husband's hours	Wife's hours	DI[1]	SDI[2]	NDI[3]
34.3	30.8	115	7	109

Man's occupation
Welder

```
M  1MO  ----------------------------------------------- ----------------------------------------------------
M  2TU  ----------------------------------------------- ----------WWWWWWWWWWWWWWWW--WWWWWWWWWWWWWWWW--
M  3WE  ----------------------------------------------- ----------WWWWWWWWWWWWWWWW--WWWWWWWWWWWWWWWW--
M  4TH  ----------------------------------------------- ----------WWWWWWWWWWWWWWWW--WWWWWWWWWWWWWWWW--
M  5FR  ----------------------------------------------- ----------WWWWWWWWWWWWWWWW--WWWWWWWWWWWWWWWW--
M  6SA  ----------------------------------------------- ----------------------------------------------------
M  7SU  ----------------------------------------------- ----------------------------------------------------

Time    0==1==2==3==4==5==6==7==8==9==10=11=12==1==2==3==4==5==6==7==8==9==10=11=12
          a.m.                                          p.m.
```

Woman's occupation
Nurse's aid

```
W  1MO  ----------------------------------------------- ----------------------------------------------------
W  2TU  ----------------------------------------------- ----------------------------------------------------
W  3WE  ----------------------WWWWWW-WWWWWWWWWWWWWW W--WWWWWW----------------------------------------------
W  4TH  --------------------------WWWWWWWWWWWWWW W--WWWWWWWWWWWWWW----------------------------------------
W  5FR  ----------------------WWWWWW-WWWWWWWWWWWWWW W--WWWWWW----------------------------------------------
W  6SA  ----------------------WWWWWW-WWWWWWWWWWWWWW WWWWWW----------------------------------------------
W  7SU  ----------------------------------------------- ----------------------------------------------------
```

1 DI = Dissimilarity index. (See appendix.)

2 SDI = Structural dissimilarity index.

3 NDI = Net dissimilarity index.

NOTE: Each line beginning with an expression, such as 'M 1MO' (which stand for man, Monday) describes a daily sequence of 96 quarters of an hour ("----" = 1 hour not working. "WWWW" = 1 hour of paid work).

SOURCE: Institut National de la Statistique et des Etudes Economique, INSEE (National Statistical Institute).

amount of time doing unpaid work or home chores during times her husband is doing income-producing farm chores).

Part (D) illustrates the "ships passing in the night" model of working couples. In the first case, there is a factory-worker husband putting in night shift hours on Tuesday, Wednesday, and Sunday and day shifts on Friday—in contrast to his postal-worker wife who puts in her fairly regular afternoon hours on Wednesday through Friday. The main virtue of this arrangement, as far as their marriage is concerned, is that both only work about 30 hours a week. The same is true for the second couple, in which the welder husband works the evening shift Tuesday through Friday, while his wife works a day shift as a nurse's aide on Wednesday through Saturday.

Is there a simpler way to capture the overlaps and disparities apparent in these eight couples? In the analyses that follow, a formula is proposed to quantify the extent of dissimilarity or disparity between the various husband-wife patterns. That dissimilarity index (DI) is defined to have a range of values from 0 (when the couple works exactly the same schedules) to 200 (when there is absolutely no overlap in their schedules). The derivation of the formula for DI in the appendix to this article illustrates how the formula can be decomposed to show separate net differences (due to simple number of hours worked) and structural differences (due to pattern differences in schedules).

In the analyses below, the DI formula is used to identify:

- The demographic and background correlates of couples with more disparate workweeks, as reported in the French Time-Use Survey questionnaire.
- The differences in time-use and life style of couples that accompany those differences, as reflected in their time-diary reports
- How "real couple" work patterns differ from "randomly coupled" pairs of individuals in the sample

Overall dissimilarity comparisons. To display how values of DI differ, we examine how the eight couples in exhibit 1 differ in terms of their values of DI. Couples in part (A) obviously have maximal overlap and thus low values of DI—12 for the first couple and 10 for the second couple. In part (B), the values of DI rise to 37 and 32 respectively, mainly due to *net* differences in schedules—that is, when one spouse is working and the other is not (as defined in the appendix). In part (C), however, the wife works during the same hour periods as the husband does, but he just works more hours; these are reflected in DI values of 67 and 74, here mainly due to *structural* hour differences, as defined in the appendix. In contrast, the last pair of couples' highest DI scores of 115 are almost entirely due to times when the couples are working different periods of time, as was also the case for the part (B) couples.

Demographic differences among groups

Different values of the dissimilarity index can be used to show differences among certain demographic factors (table 1). The total of 1,448 matched couples (from the National Statistical Institute or INSEE sample) who both returned work grids are divided into six categories based on increasing values of DI at 20-index point intervals starting from the lowest 0–20 (less than 20) grouping of DI to the highest values of DI (100 or more). This regular, but arbitrary, set of cutoffs includes 156 spouses in the 0–20 category, 333 spouses in the 20–39 group, and 224 spouses in the highest DI category. In the first row of calculations under the dissimilarity categories in table 1, it can be seen how the average values of DI in each category do rise about 20 points for each successive category (from 12 to 30 to 50 to 69 to 89 to 107 for the 100 or more category).

In terms of subdividing the index into structural and net differences, however, some different patterns occur—despite the fact that the overall DI value of 59 is comprised of virtually identical amounts of structural (29) and net (30) differences. As total dissimilarity increases, the two components diverge at the two highest DI values. For the highest DI group (100 or more), most of the difference is in terms of structural differences (65 out of 107); for the second highest group (80–99), by contrast, net differences are large (49 out 89). Some of these differences may account for differences in the demographic patterns between the couples.

Demographic factors. In the "paid work" section of table 1, differences in work hours (from the grid) are highest in DI values of 100 or more, and that is true among both men and women. Respondents with these highest values of DI report work grids with the shortest workweeks—29 average hours of work for men and 21 hours of work for women. For men, workweek length only declines notably for these highest DI category values. For women, workweek length steadily increases as DI declines. It appears, then, that higher values of DI can be expected when one of the spouses in a marriage works shorter weeks.

One reason for the higher values of DI among wives and husbands with shorter workweeks may be found in the next section of table 1, dealing with numbers of children, age, and income. With the exception of the 80–99 DI grouping, respondents with higher values of DI do have more children. In other words, presence of children seems to have something to do with asynchronous work schedules, making it more difficult for husbands and wives to have overlap in their work schedules. The data suggest perhaps that one way to maximize time with children is by having at least one parent at home (some time during the day).

The calculations by age for men and women show that the higher values of DI are found among younger respondents,

Table 1. Husband-wife synchronization and background factors, derived from the French Time Use Survey, 1998–99

Variable	Dissimilarity index						
	Total	Less than 20	20–39	40–59	60–79	80–99	100 or more
Number of couples[1]	1,488	156	333	331	291	153	224
Dissimilarity							
Net dissimilarity index (NDI)	29	6	15	26	37	49	43
Structural dissimilarity index (SDI)	30	6	15	24	32	40	65
Paid work							
Man (week grid, hours / week)	41.5	42.5	44.2	45.1	44.1	40.3	29.0
Woman (week grid, hours / week)	32.7	40.9	38.7	34.5	31.0	28.2	21.0
Demographics							
Number of children (under age 18)	1.02	.76	.85	1.04	1.16	1.08	1.22
Age, man	42.5	42.9	43.4	43.1	42.7	40.7	40.7
Age, woman	40.4	40.8	41.3	41.2	40.1	38.7	38.8
Income (100 francs per month and per consumer unit[2])	104	116	119	110	96	80	90

[1] All couples, all types of weeks.

[2] 100FF= about $18 in 1998–99.

SOURCE: Institut National de la Statistique et des Etudes Economique, INSEE (National Statistical Institute)1998–99 Time-Use Survey.

both men and women. This again may reflect the presence of children differences just noted. The age differences are only about 2 years between the top and bottom groups, however.

Lower incomes are also found among couples with more asynchronous schedules. Not only are lower wages a disadvantage for low-income families, then, but also the ability to spend nonwork time to be together.

Lifestyle and activity differences. In this analysis, we are able to take advantage of the rich time-diary data collected in the INSEE survey. Table 2 shows differences in certain daily activities as reported in the daily time diaries. Consistent with the estimated workweeks in table 1, table 2 first shows lower diary work hours among those in higher categories of DI. However, table 2 shows that the differences decline steadily (for both men and women) only past the second (20–39) category of DI values.

Also consistent with table 1 is the general increase in childcare time as DI increases for both men and women (this time difference indeed is almost entirely accounted for by presence of children). Paralleling this is the general (but irregular) increase in housework time for both men and women at higher levels of DI.

The figures for free time at home, however, show more complex patterns. For men, more free time is found for those being either in the highest category of DI (264 minutes per day, or 31 hours per week) and in the lowest values of DI (259 minutes). Among women, the free time amounts are only slightly higher, with higher category values of DI. Part of the reason for this lack of overall difference in free time amounts among women may be attributed to the lower paid work hours for both men and women, which are offset by higher childcare and housework hours found in the previous section of table 2.

The next section of table 2 provides a closer look into which activities (paid work, child care, or housework) are proportionately done by men. The data reveal that at higher levels of DI, men do more paid work (57 percent, versus 51 percent for lowest DI—less than 20—levels) as measured either by the grid or the diary. Gender differences in both childcare and housework are minimal across DI levels, as are free-time gender differences.

The last section of table 2 show differences in the gaps between estimates and diaries/grids. The largest gaps between estimated and diary/grid figures for work time show up in both the highest and lowest categories of DI—and with very little systematic difference for those in intermediate categories. This suggests that having asynchronous couple schedules may be a factor in less accurate workweek estimates.

Comparisons with random couples. Among the subsample of couples reporting that their work week grid was "normal" in the INSEE survey, the dissimilarity index is calculated in the third column of table 3. As expected, the DI index is lower in observed couples (53) than in male-female random pairs (63)—or in random male-male pairs (59) or female-female pairs (65), used as benchmarks. In other words, one can detect something of a "marriage effect," in that husbands and wives accommodate to each other's schedules more than randomly selected men and women from the population at large.

IN GENERAL, THE GRAPHIC INFORMATION gathered from the work grid can provide a variety of sociological data on married couples and workers in general. Our new index of dissimilarity

Table 2. Male-female synchronization and time-use factors, French Time Use Survey, 1998–99

Variable	Total	Dissimilarity index					
		Less than 20	20–39	40–59	60–79	80–99	100 or more
Number of couples	[1]1,488	156	333	331	291	153	224
Time (diary, minutes/day)							
Paid work, man	342	324	368	376	355	327	261
Paid work, woman	267	311	314	270	264	228	192
Child care, man	17	14	12	17	17	18	29
Child care, woman	41	26	27	40	44	44	67
Housework, man	138	131	123	122	134	141	196
Housework, woman	256	226	222	253	259	276	312
Free time, man	242	259	232	228	239	254	264
Free time, woman	196	186	184	193	198	214	210
Share (in percent)							
Man's share of couple's paid work, week grid (percent)	56.0	51.0	53.3	57.0	58.6	58.9	56.6
Man's share of couple's paid work, diary (percent)	56.2	51.0	54.0	58.2	57.3	58.9	57.6
Man's share of couple's child care, diary (percent)	29.9	35.1	30.1	30.1	27.5	28.5	30.5
Man's share of couple's housework, diary (percent)	35.1	36.7	35.6	32.6	34.0	33.8	38.5
Man's share of couple's free time, diary (percent)	55.3	58.2	55.8	54.2	54.8	54.3	55.7
Gap							
100*HM/(PAIDM*7/60) Men	96.2	88.9	97.0	97.3	93.8	94.8	105.1
100*HW/(PAIDW*7/60) Women	95.2	88.7	94.7	91.4	99.5	94.4	106.7

[1] All couples, all types of weeks.

SOURCE: Institut National de la Statistique et des Etudes Economique, INSEE (National Statistical Institute),1998–99 Time-Use Survey.

Table 3. Dissimilarity index calculations between married couples and random pairs of men and women, French Time Use Survey, 1998–99

Grouping	Paid work (from workweek grid)		Dissimilarity index	Structural dissimilarity index	Net dissimilarity index
	Men	Women			
Men and women, real couples (mean)	44.8	36.5	53.0	21.2	31.9
(Standard deviation)	(13.4)	(12.6)	(29.2)	(18.9)	(28.1)
Random pairs, men-women (mean)	44.8	36.5	63.4	24.9	38.5
(Standard deviation)	(13.4)	(12.6)	(25.2)	(20.1)	(26.9)
Random pairs, men-men (mean)	45.0	45.0	59.3	21.0	38.3
(Standard deviation)	(13.6)	(13.6)	(28.6)	(17.4)	(28.1)
Random pairs, women-women (mean)	36.8	36.8	64.7	25.1	39.6
(Standard deviation)	(13.0)	(13.0)	(23.1)	(19.7)	(24.3)

SOURCE: Institut National de la Statistique et des Etudes Economique, INSEE (National Statistical Institute), 1998–99 Time-Use Survey.

(DI) seems to capture the disparity in these husband-wife pairings, and reveals greater overlap or synchronization of schedules among husbands and wives with fewer work hours, fewer children, lower age, and lower income. These results were largely confirmed using time-diary data, although synchronization did not seem related to the free time of either husbands or wives. Married couples seem to have about 20 percent more synchronous schedules than do randomly selected pairs of employed men and women. The DI index, also has the advantage of being decomposed conveniently into differences due to number of hours and due to schedule per se. □

Note

[1] See John P. Robinson, Alain Chenu,and Anthony S. Alvarez, "Measuring the complexity of hours at work: the weekly work grid," *Monthly Labor Review*, April 2002, pp. 44–54.

Appendix: Comparing two workweek schedules using the dissimilarity index

Assuming that Ai and Aj are any two persons who have filled the week diary on a normal week of work, and that:

Pi = Proportion of paid work time in Ai's grid

Pj = Proportion of paid work time in Aj's grid

Pij = Proportion of time for which Ai and Aj are both working (synchronized paid work length / total length of the week)

P'ij = Proportion of time for which Ai and Aj would be working if their both schedules where fixed at random, Pi and Pj being given (independence hypothesis)

Then,

Pi + Pj – 2 Pij is the proportion of nonsynchronized time, and

Pi + Pj – 2 P'ij = Pi + Pj – 2 Pi Pj is the proportion of nonsynchronized time under the independence hypothesis.

The dissimilarity index between two persons' grids, DIij, is defined in order to equal 100 when the two schedules are independent, and 0 when they are perfectly identical.

$$DIij = 100 (Pi + Pj – 2 Pij) / (Pi + Pj – 2 Pi Pj)$$

When Pi + Pj £ 1, the minimum value of Pij of 0; and the maximum value of DIij, 200, is reached when Pi = Pj.

In this formulation, one can distinguish structural dissimilarity from net dissimilarity. If we suppose Pi > Pj, Pij cannot be greater than Pj. The lowest possible value of DIij, reached when Pij = Pj, can be seen as a structural dissimilarity index, with

$$SDIij = 100 (Pi – Pj) / (Pi + Pj – 2 Pi Pj)$$

Therefore DIij can be split into SDIij and NDIij, structural and net dissimilarity indexes, with:

$$DIij = SDIij + NDIij,$$

$$NDiij = 200 (Pj – Pij) / (Pi + Pj – 2 Pi Pj)$$

When Pi = Pj, NDIij = Diij. That is, when husbands and wives have identical proportions of overlap, all of the disparity is net dissimilarity.

Thus, when both members of a couple work the same identical number of hours, SDI=0. The higher SDI is, the more asymmetrical the family workweek. NDI measures the couple's synchronization/asynchronization level, net of the effects of its symmetry or asymmetry. Therefore SDI can be designated as a symmetry index, NDI as a net synchronization index.

The marketization hypothesis

The percentage of women in the United States who work for pay is notably higher than in many European countries. Richard B. Freeman of the National Bureau of Economic Research and Ronald Schettkat of Utrecht University examined this fact recently.

In "Marketization of Production and the US–Europe Employment Gap" (NBER Working Paper Number 8797), they compare data on the United States and Germany in their investigation of "the marketization hypothesis." This hypothesis challenges previous explanations of the U.S.-European Union (EU) employment differences: that the EU lost jobs in the 1980s and 1990s because "its wage-setting institutions compressed wage differentials below market levels" and that "EU welfare state provisions led many to remain jobless longer than would otherwise be the case." In contrast, the marketization hypothesis explains the differences in terms of how the location of production—the household or labor market—affects demand in the labor market. Freeman and Schettkat present evidence indicating that Germans spend more time on household production than Americans and less time on market work. For example, Germans spend more time per week preparing meals. The difference in time allocation is most pronounced among women.

Freeman and Schettkat suggest that by producing relatively more goods in the market, the United States generates demand for low-skill labor, while by producing relatively more goods at home, Germany creates less of a demand. But what would lead to less marketization of the German economy compared with the United States? Freeman and Schettkat mention several possible factors: 1) higher tax rates and higher nonwage labor charges in Germany; 2) less dispersion of earnings in Germany; 3) higher proportion of women in the United States with college degrees; and 4) "differences in lifestyle" (Germans seem to prefer fewer working hours in the labor market.

Inequality, families, and growth

Gary Burtless, a Senior Fellow at the Brookings Institution, explores the relationship between inequality and growth in a paper entitled "Has Widening Inequality Promoted or Retarded U.S. Growth?" Burtless concludes that it may have been that American economic institutions permitted inequality to increase as growth rates rose while others may have sacrificed some growth to prevent differentials from widening. Burtless also examines some often-overlooked links between domestic social trends and inequality.

After decomposing the change in personal income inequality between 1979 and 1996, Burtless finds that a third reflects increasing inequality of wage earnings, particularly among men. A roughly equal part can be associated with two changes in the social landscape. First, is a higher correlation between married couples' earnings. That is, high earners are increasingly likely to be married to high earners. Second, fewer people live in married-couple families and more live in a family headed by only one adult.

The potential impact of the first factor on inequality is straightforward and accounts for about 13 percent of the increase. The second is a more interesting story: "A family containing more than one potential earner has the equivalent of an insurance policy to offset the variability of the principal earner's wages. A family with only one potential earner lacks that insurance." Burtless finds that the "atomization" of families contributes about 21 percent of the increase in income inequality, a proportion not far below the contribution of increased earnings inequality among males.

Tale of three trends

Three long-term demographic trends will have significant impacts on the economy in the 21st century, according to Jane Sneddon Little and Robert Triest's writing in the *New England Economic Review*. The population is expected to grow more slowly, age rapidly, and become more diverse. As a result largely of the first two, one challenge will be to supply the consumption needs of a growing number of dependents (young and old) from the output of a more slowly growing labor force. The dependent population will tilt toward the older end of the scale as the baby-boom generation ages. This implies that the economic impact of dependency ratios approaching those of the 1960s could actually be more significant.

Increased immigration will alleviate some strains. Immigrants tend to be of working age and may have contributed as much as 40 percent of total labor force growth in the mid 1990s, according to Little and Triest. Countering that, however, is their mixed impact on the educational composition of the labor force, a significant source of productivity growth. A much higher share of the immigrant than the U.S.-born population do not have a high school degree while, at the same time, a greater share of immigrants than native-born Americans have attained a graduate degree. This bimodal distribution, according to Sneddon and Triest, "mainly reflects big differences in the educational attainment of immigrants by country of origin."

The economy will have to incur some costs to accommodate these trends. Little and Triest are "reasonably confident" that accommodation will be made through increasing productivity. The increase in productivity, they suggest, will be fueled in part by increased investment and capital deepening and in part through immigration and education policies. □

Work in the new economy

On the Front Line: Organization of Work in the Information Economy. By Stephen J. Frenkel, Marek Korczynski, Karen A. Shire, and May Tam. Cornell University Press, Ithaca, NY, 1999, 318 pp., $19.95.

In the industrial era, jobs were routine and coordinated by large bureaucracies, a situation made larger than life by Charlie Chaplin in his film classic, *Modern Times*. But in the information economy, new forms of work environments may be called for. *On the Front Line: Organization of Work in the Information Economy* is based on a 5-year study of more than a thousand employees and eight leading companies in the United States, Australia, and Japan, by four authors. By examining how work differs among service, sales, and knowledge-based work, this book also shows how bureaucratic, entrepreneurial, and network forms of organization co-exist in the information economy.

Front Line (informational) work is people oriented. Employees must interact constantly with customers in ways advantageous to the goals of the organization. It is rarely completely routinized, because social interaction is part of the product or service that is being supplied. Workers are usually given some discretion to tailor their behavior to the needs of the customer. Social and analytical skills and creativity are all needed. A routine service worker needs less than a sales worker, a knowledge worker needs even more, and the professional worker is likely to use the greatest degree of all three traits.

Among the occupations the authors include under "Front Line" work: waiters and waitresses, fast-food service attendants, retail and wholesale sales work, legal service workers, architecture and software designers, insurance, securities, and real estate salespeople, customer service workers, truck drivers, childcare workers, employees in call centers, home loan consultants, financial consultants, money market dealers, insurance claims adjusters, social workers and medical workers of all types, to name only a few.

Front Line work is especially sensitive to changes in internal and external organizational environments. Variations in demand for the product can cause on-the-job changes, including layoffs. Employees are expected to display emotional resilience and flexibility. There are usually no buffers to protect them.

Front Line work is often strategically important and spans boundaries. For example, a Front Line worker may generate revenue through selling, and at the same time, gather intelligence in order to develop a customer knowledge base for future innovation. Front Line work appears to be growing. Witness the rapid expansion of telephone-related services. According to a technology consultant, the 1996 sales of call-center systems in North America totaled $3 billion. This represents a tenfold increase since 1991, and a twofold increase since 1994. Occupational growth statistics projected for the United States, Australia, and Japan show that the increased percentage of the labor force in professional, technical, service and sales work—work that is usually Front Line, and Front Line support personnel—is likely to be higher than other categories of work. Work in many rapidly growing occupations in advanced societies appears to be service related and people centered.

In informational work, employers are likely to value worker willingness and ability to learn, say the authors. Management tends to develop policies that enhance employee knowledge and the skills necessary to ensure good customer relations. There is also likely to be increased numerical and temporal flexibility, shown by the recent growth of nonstandard employment, particularly part-time and self-employment.

In the United States, self-employment as a percent of total employment in nonagricultural sectors was 6.7 percent in 1973, but 17.5 percent in 1993. In Australia, it was 9.5 percent in 1973, compared with 12.9 percent in 1993. In Japan, self-employment was 14.0 percent in 1973, compared with 10.3 percent in 1993. Part-time employment as a percent of total employment in the United States was 15.6 percent in 1973 and 17.5 percent in 1993. In Australia, it was 11.9 percent compared with 23.9 percent; and in Japan, it was 13.9 percent compared with 21.1 percent in 1993.

Management uses various strategies to ensure that service is delivered efficiently and tailored to varying degrees to suit customer requirements. For example, fast-food service attendants follow relatively standardized work routines, and customer behavior is routinized through the physical layouts of the restaurants and instructions for ordering and queuing up for food. By contrast, insurance salespeople are routinized by being inculcated with a strong sense of responsibility to follow the work routines management deems superior. These have the effect of returning deviant prospective customers to normal customer status.

The trend toward higher skilled jobs and high-skill autonomous work systems encourages greater job satisfaction, the authors say. But other aspects of work—job security, effort, and promotional opportunities—have not kept pace with expectations. In addition, pay raises are rarely commensurate with increased job requirements, particularly in jobs in which women predominate. Inequalities in earnings add to worker dissatisfaction.

Relations between Front-Line workers and customers tend to be contradictory, because the workers are required to satisfy individual customer requirements on the one hand, while projecting a positive image of the organization on the other. The former invites less management control, while the latter encourages closer management attention. "Unions are one institution, whose impact on employment relations is some-

times profound," say the authors of *On the Front Line*. But active unions have positive effects regarding bread and butter issues, although not on other important matters to workers. For example, they rarely influence promotional opportunities and training.

Decisions about how to structure employment relations typically center on hiring, training, retraining, and rewarding employees. The organizational forms that are used include the bureaucratic, entrepreneurial, and knowledge intensive.

Bureaucratic forms of employment relations are associated with semiroutinized work. They may be unilaterally regulated by management or jointly regulated by collective bargaining agreements with unions. Seniority is likely to be important, and promotions come from within. These workers are expected to be dependable and committed to the organization's goals. The company provides formal training.

Entrepreneurial forms of employment relations are associated with work in which the incentive for employers to train workers is limited. Pay is either time related (pay rises relative to time spent at work), or closely related to individual output, as in piecework, or payment-by-results systems. Tenure may be spotty. Knowledge-intensive forms emphasize lateral rather than vertical ties and are associated with jobs involving complex tasks based on specialized transferable knowledge and skills. Legally regulated professionals, such as doctors and architects, typically work in such settings. Professional licenses are important, as well as professional associations.

Considering the organization of staff in companies whose employees constantly deal with people both inside and outside their firm, *On the Front Line* discusses a management problem not often undertaken. But perhaps because the book involves the findings of four researchers rather than one, or because their is no standard definition of "Front Line work," the book is sometimes redundant. Its authors use varying definitions of the problems they outline and their solutions. But as the ranks of service-producing workers far outweigh those of goods-producing workers, greater attention must surely fall on informational or "Front Line" work. This is a worthwhile beginning.

—Mary Ellen Ayres

Office of Publications,
Bureau of Labor Statistics

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This section of the *Review* presents the principal statistical series collected and calculated by the Bureau of Labor Statistics: series on labor force; employment; unemployment; labor compensation; consumer, producer, and international prices; productivity; international comparisons; and injury and illness statistics. In the notes that follow, the data in each group of tables are briefly described; key definitions are given; notes on the data are set forth; and sources of additional information are cited.

General notes

The following notes apply to several tables in this section:

Seasonal adjustment. Certain monthly and quarterly data are adjusted to eliminate the effect on the data of such factors as climatic conditions, industry production schedules, opening and closing of schools, holiday buying periods, and vacation practices, which might prevent short-term evaluation of the statistical series. Tables containing data that have been adjusted are identified as "seasonally adjusted." (All other data are not seasonally adjusted.) Seasonal effects are estimated on the basis of past experience. When new seasonal factors are computed each year, revisions may affect seasonally adjusted data for several preceding years.

Seasonally adjusted data appear in tables 1–14, 16–17, 43, and 47. Seasonally adjusted labor force data in tables 1 and 4–9 were revised in the February 2002 issue of the *Review*. Seasonally adjusted establishment survey data shown in tables 1, 12–14 and 16–17 were revised in the July 2001 *Review* and reflect the experience through March 2001. A brief explanation of the seasonal adjustment methodology appears in "Notes on the data."

Revisions in the productivity data in table 49 are usually introduced in the September issue. Seasonally adjusted indexes and percent changes from month-to-month and quarter-to-quarter are published for numerous Consumer and Producer Price Index series. However, seasonally adjusted indexes are not published for the U.S. average All-Items CPI. Only seasonally adjusted percent changes are available for this series.

Adjustments for price changes. Some data—such as the "real" earnings shown in table 14—are adjusted to eliminate the effect of changes in price. These adjustments are made by dividing current-dollar values by the Consumer Price Index or the appropriate component of the index, then multiplying by 100. For example, given a current hourly wage rate of $3 and a current price index number of 150, where 1982 = 100, the hourly rate expressed in 1982 dollars is $2 ($3/150 x 100 = $2). The $2 (or any other resulting values) are described as "real," "constant," or "1982" dollars.

Sources of information

Data that supplement the tables in this section are published by the Bureau in a variety of sources. Definitions of each series and notes on the data are contained in later sections of these Notes describing each set of data. For detailed descriptions of each data series, see *BLS Handbook of Methods*, Bulletin 2490. Users also may wish to consult *Major Programs of the Bureau of Labor Statistics*, Report 919. News releases provide the latest statistical information published by the Bureau; the major recurring releases are published according to the schedule appearing on the back cover of this issue.

More information about labor force, employment, and unemployment data and the household and establishment surveys underlying the data are available in the Bureau's monthly publication, *Employment and Earnings*. Historical unadjusted and seasonally adjusted data from the household survey are available on the Internet:

http://www.bls.gov/cps/

Historically comparable unadjusted and seasonally adjusted data from the establishment survey also are available on the Internet:

http://www.bls.gov/ces/

Additional information on labor force data for areas below the national level are provided in the BLS annual report, *Geographic Profile of Employment and Unemployment*.

For a comprehensive discussion of the Employment Cost Index, see *Employment Cost Indexes and Levels, 1975–95*, BLS Bulletin 2466. The most recent data from the Employee Benefits Survey appear in the following Bureau of Labor Statistics bulletins: *Employee Benefits in Medium and Large Firms; Employee Benefits in Small Private Establishments;* and *Employee Benefits in State and Local Governments*.

More detailed data on consumer and producer prices are published in the monthly periodicals, *The CPI Detailed Report* and *Producer Price Indexes*. For an overview of the 1998 revision of the CPI, see the December 1996 issue of the *Monthly Labor Review*. Additional data on international prices appear in monthly news releases.

Listings of industries for which productivity indexes are available may be found on the Internet:

http://www.bls.gov/lpc/

For additional information on international comparisons data, see *International Comparisons of Unemployment*, BLS Bulletin 1979.

Detailed data on the occupational injury and illness series are published in *Occupational Injuries and Illnesses in the United States, by Industry*, a BLS annual bulletin.

Finally, the *Monthly Labor Review* carries analytical articles on annual and longer term developments in labor force, employment, and unemployment; employee compensation and collective bargaining; prices; productivity; international comparisons; and injury and illness data.

Symbols

n.e.c. = not elsewhere classified.
n.e.s. = not elsewhere specified.
p = preliminary. To increase the timeliness of some series, preliminary figures are issued based on representative but incomplete returns.
r = revised. Generally, this revision reflects the availability of later data, but also may reflect other adjustments.

Comparative Indicators

(Tables 1–3)

Comparative indicators tables provide an overview and comparison of major BLS statistical series. Consequently, although many of the included series are available monthly, all measures in these comparative tables are presented quarterly and annually.

Labor market indicators include employment measures from two major surveys and information on rates of change in compensation provided by the Employment Cost Index (ECI) program. The labor force participation rate, the employment-to-population ratio, and unemployment rates for major demographic groups based on the Current Population ("household") Survey are presented, while measures of employment and average weekly hours by major industry sector are given using nonfarm payroll data. The Employment Cost Index (compensation), by major sector and by bargaining status, is chosen from a variety of BLS compensation and wage measures because it provides a comprehensive measure of employer costs for hiring labor, not just outlays for wages, and it is not affected by employment shifts among occupations and industries.

Data on **changes in compensation, prices, and productivity** are presented in table 2. Measures of rates of change of compensa-

tion and wages from the Employment Cost Index program are provided for all civilian nonfarm workers (excluding Federal and household workers) and for all private nonfarm workers. Measures of changes in consumer prices for all urban consumers; producer prices by stage of processing; overall prices by stage of processing; and overall export and import price indexes are given. Measures of productivity (output per hour of all persons) are provided for major sectors.

Alternative measures of wage and compensation rates of change, which reflect the overall trend in labor costs, are summarized in table 3. Differences in concepts and scope, related to the specific purposes of the series, contribute to the variation in changes among the individual measures.

Notes on the data

Definitions of each series and notes on the data are contained in later sections of these notes describing each set of data.

Employment and Unemployment Data

(Tables 1; 4–24)

Household survey data

Description of the series

EMPLOYMENT DATA in this section are obtained from the Current Population Survey, a program of personal interviews conducted monthly by the Bureau of the Census for the Bureau of Labor Statistics. The sample consists of about 60,000 households selected to represent the U.S. population 16 years of age and older. Households are interviewed on a rotating basis, so that three-fourths of the sample is the same for any 2 consecutive months.

Definitions

Employed persons include (1) all those who worked for pay any time during the week which includes the 12th day of the month or who worked unpaid for 15 hours or more in a family-operated enterprise and (2) those who were temporarily absent from their regular jobs because of illness, vacation, industrial dispute, or similar reasons. A person working at more than one job is counted only in the job at which he or she worked the greatest number of hours.

Unemployed persons are those who did not work during the survey week, but were available for work except for temporary illness and had looked for jobs within the preceding 4 weeks. Persons who did not look for work because they were on layoff are also counted among the unemployed. **The unemployment rate** represents the number unemployed as a percent of the civilian labor force.

The **civilian labor force** consists of all employed or unemployed persons in the civilian noninstitutional population. Persons **not in the labor force** are those not classified as employed or unemployed. This group includes discouraged workers, defined as persons who want and are available for a job and who have looked for work sometime in the past 12 months (or since the end of their last job if they held one within the past 12 months), but are not currently looking, because they believe there are no jobs available or there are none for which they would qualify. The **civilian noninstitutional population** comprises all persons 16 years of age and older who are not inmates of penal or mental institutions, sanitariums, or homes for the aged, infirm, or needy. The **civilian labor force participation** rate is the proportion of the civilian noninstitutional population that is in the labor force. The **employment-population ratio** is employment as a percent of the civilian noninstitutional population.

Notes on the data

From time to time, and especially after a decennial census, adjustments are made in the Current Population Survey figures to correct for estimating errors during the intercensal years. These adjustments affect the comparability of historical data. A description of these adjustments and their effect on the various data series appears in the Explanatory Notes of *Employment and Earnings*.

Labor force data in tables 1 and 4–9 are seasonally adjusted. Since January 1980, national labor force data have been seasonally adjusted with a procedure called X-11 ARIMA which was developed at Statistics Canada as an extension of the standard X-11 method previously used by BLS. A detailed description of the procedure appears in the X-11 *ARIMA Seasonal Adjustment Method,* by Estela Bee Dagum (Statistics Canada, Catalogue No. 12-564E, January 1983).

At the beginning of each calendar year, historical seasonally adjusted data usually are revised, and projected seasonal adjustment factors are calculated for use during the January–June period. The historical seasonally adjusted data usually are revised for only the most recent 5 years. In July, new seasonal adjustment factors, which incorporate the experience through June, are produced for the July–December period, but no revisions are made in the historical data.

FOR ADDITIONAL INFORMATION on national household survey data, contact the Division of Labor Force Statistics: (202) 691–6378.

Establishment survey data

Description of the series

EMPLOYMENT, HOURS, AND EARNINGS DATA in this section are compiled from payroll records reported monthly on a voluntary basis to the Bureau of Labor Statistics and its cooperating State agencies by about 300,000 establishments representing all industries except agriculture. Industries are classified in accordance with the 1987 *Standard Industrial Classification (SIC) Manual.* In most industries, the sampling probabilities are based on the size of the establishment; most large establishments are therefore in the sample. (An establishment is not necessarily a firm; it may be a branch plant, for example, or warehouse.) Self-employed persons and others not on a regular civilian payroll are outside the scope of the survey because they are excluded from establishment records. This largely accounts for the difference in employment figures between the household and establishment surveys.

Definitions

An **establishment** is an economic unit which produces goods or services (such as a factory or store) at a single location and is engaged in one type of economic activity.

Employed persons are all persons who received pay (including holiday and sick pay) for any part of the payroll period including the 12th day of the month. Persons holding more than one job (about 5 percent of all persons in the labor force) are counted in each establishment which reports them.

Production workers in manufacturing include working supervisors and nonsupervisory workers closely associated with production operations. Those workers mentioned in tables 11–16 include production workers in manufacturing and mining; construction workers in construction; and nonsupervisory workers in the following industries: transportation and public utilities; wholesale and retail trade; finance, insurance, and real estate; and services. These groups account for about four-fifths of the total employment on private nonagricultural payrolls.

Earnings are the payments production or nonsupervisory workers receive during the survey period, including premium pay for overtime or late-shift work but exclud-

ing irregular bonuses and other special payments. **Real earnings** are earnings adjusted to reflect the effects of changes in consumer prices. The deflator for this series is derived from the Consumer Price Index for Urban Wage Earners and Clerical Workers (CPI-W).

Hours represent the average weekly hours of production or nonsupervisory workers for which pay was received, and are different from standard or scheduled hours. **Overtime hours** represent the portion of average weekly hours which was in excess of regular hours and for which overtime premiums were paid.

The **Diffusion Index** represents the percent of industries in which employment was rising over the indicated period, plus one-half of the industries with unchanged employment; 50 percent indicates an equal balance between industries with increasing and decreasing employment. In line with Bureau practice, data for the 1-, 3-, and 6-month spans are seasonally adjusted, while those for the 12-month span are unadjusted. Data are centered within the span. Table 17 provides an index on private nonfarm employment based on 356 industries, and a manufacturing index based on 139 industries. These indexes are useful for measuring the dispersion of economic gains or losses and are also economic indicators.

Notes on the data

Establishment survey data are annually adjusted to comprehensive counts of employment (called "benchmarks"). The latest adjustment, which incorporated March 2000 benchmarks, was made with the release of May 2001 data, published in the July 2001 issue of the *Review.* Coincident with the benchmark adjustment, historical seasonally adjusted data were revised to reflect updated seasonal factors. Unadjusted data from April 2000 forward and seasonally adjusted data from January 1997 forward are subject to revision in future benchmarks.

In addition to the routine benchmark revisions and updated seasonal factors introduced with the release of the May 2000 data, all estimates for the wholesale trade division from April 1998 forward were revised to incorporate a new sample design. This represented the first major industry division to convert to a probability-based sample under a 4-year phase-in plan for the establishment survey sample redesign project. For additional information, see the the June 2000 issue of *Employment and Earnings.*

Revisions in State data (table 11) occurred with the publication of January 2000 data.

Beginning in June 1996, the BLS uses the X-12 ARIMA methodology to seasonally adjust establishment survey data. This procedure, developed by the Bureau of the Census, controls for the effect of varying survey intervals (also known as the 4- versus 5-week effect), thereby providing improved measurement of over-the-month changes and underlying economic trends. Revisions of data, usually for the most recent 5-year period, are made once a year coincident with the benchmark revisions.

In the establishment survey, estimates for the most recent 2 months are based on incomplete returns and are published as preliminary in the tables (12–17 in the *Review).* When all returns have been received, the estimates are revised and published as "final" (prior to any benchmark revisions) in the third month of their appearance. Thus, December data are published as preliminary in January and February and as final in March. For the same reasons, quarterly establishment data (table 1) are preliminary for the first 2 months of publication and final in the third month. Thus, fourth-quarter data are published as preliminary in January and February and as final in March.

FOR ADDITIONAL INFORMATION on establishment survey data, contact the Division of Monthly Industry Employment Statistics: (202) 691–6555.

Unemployment data by State

Description of the series

Data presented in this section are obtained from the Local Area Unemployment Statistics (LAUS) program, which is conducted in cooperation with State employment security agencies.

Monthly estimates of the labor force, employment, and unemployment for States and sub-State areas are a key indicator of local economic conditions, and form the basis for determining the eligibility of an area for benefits under Federal economic assistance programs such as the Job Training Partnership Act. Seasonally adjusted unemployment rates are presented in table 10. Insofar as possible, the concepts and definitions underlying these data are those used in the national estimates obtained from the CPS.

Notes on the data

Data refer to State of residence. Monthly data for all States and the District of Columbia are derived using standardized procedures established by BLS. Once a year, estimates are revised to new population controls, usually with publication of January estimates, and benchmarked to annual average CPS levels.

FOR ADDITIONAL INFORMATION on data in this series, call (202) 691–6392 (table 10) or (202) 691–6559 (table 11).

Covered employment and wage data (ES–202)

Description of the series

EMPLOYMENT, WAGE, AND ESTABLISHMENT DATA in this section are derived from the quarterly tax reports submitted to State employment security agencies by private and State and local government employers subject to State unemployment insurance (UI) laws and from Federal, agencies subject to the Unemployment Compensation for Federal Employees (UCFE) program. Each quarter, State agencies edit and process the data and send the information to the Bureau of Labor Statistics.

The Covered Employment and Wages data, also referred as ES-202 data, are the most complete enumeration of employment and wage information by industry at the national, State, metropolitan area, and county levels. They have broad economic significance in evaluating labor market trends and major industry developments.

Definitions

In general, ES-202 monthly employment data represent the number of **covered workers** who worked during, or received pay for, the pay period that included the 12th day of the month. **Covered private industry employment** includes most corporate officials, executives, supervisory personnel, professionals, clerical workers, wage earners, piece workers, and part-time workers. It excludes proprietors, the unincorporated self-employed, unpaid family members, and certain farm and domestic workers. Certain types of nonprofit employers, such as religious organizations, are given a choice of coverage or exclusion in a number of States. Workers in these organizations are, therefore, reported to a limited degree.

Persons on paid sick leave, paid holiday, paid vacation, and the like, are included. Persons on the payroll of more than one firm during the period are counted by each UI-subject employer if they meet the employment definition noted earlier. The employment count excludes workers who earned no wages during the entire applicable pay period because of work stoppages, temporary layoffs, illness, or unpaid vacations.

Federal employment data are based on reports of monthly employment and quarterly wages submitted each quarter to State agencies for all Federal installa-

tions with employees covered by the Unemployment Compensation for Federal Employees (UCFE) program, except for certain national security agencies, which are omitted for security reasons. Employment for all Federal agencies for any given month is based on the number of persons who worked during or received pay for the pay period that included the 12th of the month.

An **establishment** is an economic unit, such as a farm, mine, factory, or store, that produces goods or provides services. It is typically at a single physical location and engaged in one, or predominantly one, type of economic activity for which a single industrial classification may be applied. Occasionally, a single physical location encompasses two or more distinct and significant activities. Each activity should be reported as a separate establishment if separate records are kept and the various activities are classified under different four-digit SIC codes.

Most employers have only one establishment; thus, the establishment is the predominant reporting unit or statistical entity for reporting employment and wages data. Most employers, including State and local governments who operate more than one establishment in a State, file a Multiple Worksite Report each quarter, in addition to their quarterly UI report. The Multiple Worksite Report is used to collect separate employment and wage data for each of the employer's establishments, which are not detailed on the UI report. Some very small multi-establishment employers do not file a Multiple Worksite Report. When the total employment in an employer's secondary establishments (all establishments other than the largest) is 10 or fewer, the employer generally will file a consolidated report for all establishments. Also, some employers either cannot or will not report at the establishment level and thus aggregate establishments into one consolidated unit, or possibly several units, though not at the establishment level.

For the Federal Government, the reporting unit is the **installation**: a single location at which a department, agency, or other government body has civilian employees. Federal agencies follow slightly different criteria than do private employers when breaking down their reports by installation. They are permitted to combine as a single statewide unit: 1) all installations with 10 or fewer workers, and 2) all installations that have a combined total in the State of fewer than 50 workers. Also, when there are fewer than 25 workers in all secondary installations in a State, the secondary installations may be combined and reported with the major installation. Last, if a Federal agency has fewer than five employees in a State, the agency headquarters office (regional office, district office) serving each State may consolidate the employment and wages data for that State with the data reported to the State in which the headquarters is located. As a result of these reporting rules, the number of reporting units is always larger than the number of employers (or government agencies) but smaller than the number of actual establishments (or installations).

Data reported for the first quarter are tabulated into **size** categories ranging from worksites of very small size to those with 1,000 employees or more. The size category is determined by the establishment's March employment level. It is important to note that each establishment of a multi-establishment firm is tabulated separately into the appropriate size category. The total employment level of the reporting multi-establishment firm is not used in the size tabulation.

Covered employers in most States report total **wages** paid during the calendar quarter, regardless of when the services were performed. A few State laws, however, specify that wages be reported for, or based on the period during which services are performed rather than the period during which compensation is paid. Under most State laws or regulations, wages include bonuses, stock options, the cash value of meals and lodging, tips and other gratuities, and, in some States, employer contributions to certain deferred compensation plans such as 401(k) plans.

Covered employer contributions for old-age, survivors, and disability insurance (OASDI), health insurance, unemployment insurance, workers' compensation, and private pension and welfare funds are not reported as wages. Employee contributions for the same purposes, however, as well as money withheld for income taxes, union dues, and so forth, are reported even though they are deducted from the worker's gross pay.

Wages of covered Federal workers represent the gross amount of all payrolls for all pay periods ending within the quarter. This includes cash allowances, the cash equivalent of any type of remuneration, severance pay, withholding taxes, and retirement deductions. Federal employee remuneration generally covers the same types of services as for workers in private industry.

Average annual wages per employee for any given industry are computed by dividing total annual wages by annual average employment. A further division by 52 yields average weekly wages per employee. Annual pay data only approximate annual earnings because an individual may not be employed by the same employer all year or may work for more than one employer at a time.

Average weekly or annual pay is affected by the ratio of full-time to part-time workers as well as the number of individuals in high-paying and low-paying occupations. When average pay levels between States and industries are compared, these factors should be taken into consideration. For example, industries characterized by high proportions of part-time workers will show average wage levels appreciably less than the weekly pay levels of regular full-time employees in these industries. The opposite effect characterizes industries with low proportions of part-time workers, or industries that typically schedule heavy weekend and overtime work. Average wage data also may be influenced by work stoppages, labor turnover rates, retroactive payments, seasonal factors, bonus payments, and so on.

Notes on the data

To insure the highest possible quality of data, State employment security agencies verify with employers and update, if necessary, the industry, location, and ownership classification of all establishments on a 3-year cycle. Changes in establishment classification codes resulting from the verification process are introduced with the data reported for the first quarter of the year. Changes resulting from improved employer reporting also are introduced in the first quarter. For these reasons, some data, especially at more detailed geographic levels, may not be strictly comparable with earlier years.

The 1999 county data used to calculate the 1999–2000 changes were adjusted for changes in industry and county classification to make them comparable to data for 2000. As a result, the adjusted 1999 data differ to some extent from the data available on the Internet at:

http://www.bls.gov/cew/home.htm.

County definitions are assigned according to Federal Information Processing Standards Publications as issued by the National Institute of Standards and Technology. Areas shown as counties include those designated as independent cities in some jurisdictions and, in Alaska, those areas designated by the Census Bureau where counties have not been created. County data also are presented for the New England States for comparative purposes, even though townships are the more common designation used in New England (and New Jersey).

For additional information on the covered employment and wage data, contact the Division of Administrative Statistics and Labor Turnover at (202) 691–6567.

Compensation and Wage Data

(Tables 1–3; 25–31)

COMPENSATION AND WAGE DATA are gathered by the Bureau from business establishments, State and local governments, labor unions, collective bargaining agreements on file with the Bureau, and secondary sources.

Employment Cost Index

Description of the series

The **Employment Cost Index** (ECI) is a quarterly measure of the rate of change in compensation per hour worked and includes wages, salaries, and employer costs of employee benefits. It uses a fixed market basket of labor—similar in concept to the Consumer Price Index's fixed market basket of goods and services—to measure change over time in employer costs of employing labor.

Statistical series on total compensation costs, on wages and salaries, and on benefit costs are available for private nonfarm workers excluding proprietors, the self-employed, and household workers. The total compensation costs and wages and salaries series are also available for State and local government workers and for the civilian nonfarm economy, which consists of private industry and State and local government workers combined. Federal workers are excluded.

The Employment Cost Index probability sample consists of about 4,400 private nonfarm establishments providing about 23,000 occupational observations and 1,000 State and local government establishments providing 6,000 occupational observations selected to represent total employment in each sector. On average, each reporting unit provides wage and compensation information on five well-specified occupations. Data are collected each quarter for the pay period including the 12th day of March, June, September, and December.

Beginning with June 1986 data, fixed employment weights from the 1980 Census of Population are used each quarter to calculate the civilian and private indexes and the index for State and local governments. (Prior to June 1986, the employment weights are from the 1970 Census of Population.) These fixed weights, also used to derive all of the industry and occupation series indexes, ensure that changes in these indexes reflect only changes in compensation, not employment shifts among industries or occupations with different levels of wages and compensation. For the bargaining status, region, and metropolitan/non-metropolitan area series, however, employment data by industry and occupation are not available from the census. Instead, the 1980 employment weights are reallocated within these series each quarter based on the current sample. Therefore, these indexes are not strictly comparable to those for the aggregate, industry, and occupation series.

Definitions

Total compensation costs include wages, salaries, and the employer's costs for employee benefits.

Wages and salaries consist of earnings before payroll deductions, including production bonuses, incentive earnings, commissions, and cost-of-living adjustments.

Benefits include the cost to employers for paid leave, supplemental pay (including nonproduction bonuses), insurance, retirement and savings plans, and legally required benefits (such as Social Security, workers' compensation, and unemployment insurance).

Excluded from wages and salaries and employee benefits are such items as payment-in-kind, free room and board, and tips.

Notes on the data

The Employment Cost Index for changes in wages and salaries in the private nonfarm economy was published beginning in 1975. Changes in total compensation cost—wages and salaries and benefits combined—were published beginning in 1980. The series of changes in wages and salaries and for total compensation in the State and local government sector and in the civilian nonfarm economy (excluding Federal employees) were published beginning in 1981. Historical indexes (June 1981=100) are available on the Internet:

http://www.bls.gov/ect/

FOR ADDITIONAL INFORMATION on the Employment Cost Index, contact the Office of Compensation Levels and Trends: (202) 691–6199.

Employee Benefits Survey

Description of the series

Employee benefits data are obtained from the Employee Benefits Survey, an annual survey of the incidence and provisions of selected benefits provided by employers. The survey collects data from a sample of approximately 9,000 private sector and State and local government establishments. The data are presented as a percentage of employees who participate in a certain benefit, or as an average benefit provision (for example, the average number of paid holidays provided to employees per year). Selected data from the survey are presented in table 25 for medium and large private establishments and in table 26 for small private establishments and State and local government.

The survey covers paid leave benefits such as holidays and vacations, and personal, funeral, jury duty, military, family, and sick leave; short-term disability, long-term disability, and life insurance; medical, dental, and vision care plans; defined benefit and defined contribution plans; flexible benefits plans; reimbursement accounts; and unpaid family leave.

Also, data are tabulated on the incidence of several other benefits, such as severance pay, child-care assistance, wellness programs, and employee assistance programs.

Definitions

Employer-provided benefits are benefits that are financed either wholly or partly by the employer. They may be sponsored by a union or other third party, as long as there is some employer financing. However, some benefits that are fully paid for by the employee also are included. For example, long-term care insurance and postretirement life insurance paid entirely by the employee are included because the guarantee of insurability and availability at group premium rates are considered a benefit.

Participants are workers who are covered by a benefit, whether or not they use that benefit. If the benefit plan is financed wholly by employers and requires employees to complete a minimum length of service for eligibility, the workers are considered participants whether or not they have met the requirement. If workers are required to contribute towards the cost of a plan, they are considered participants only if they elect the plan and agree to make the required contributions.

Defined benefit pension plans use predetermined formulas to calculate a retirement benefit (if any), and obligate the employer to provide those benefits. Benefits are generally based on salary, years of service, or both.

Defined contribution plans generally specify the level of employer and employee contributions to a plan, but not the formula for determining eventual benefits. Instead, individual accounts are set up for participants, and benefits are based on amounts credited to these accounts.

Tax-deferred savings plans are a type of

defined contribution plan that allow participants to contribute a portion of their salary to an employer-sponsored plan and defer income taxes until withdrawal.

Flexible benefit plans allow employees to choose among several benefits, such as life insurance, medical care, and vacation days, and among several levels of coverage within a given benefit.

Notes on the data

Surveys of employees in medium and large establishments conducted over the 1979–86 period included establishments that employed at least 50, 100, or 250 workers, depending on the industry (most service industries were excluded). The survey conducted in 1987 covered only State and local governments with 50 or more employees. The surveys conducted in 1988 and 1989 included medium and large establishments with 100 workers or more in private industries. All surveys conducted over the 1979–89 period excluded establishments in Alaska and Hawaii, as well as part-time employees.

Beginning in 1990, surveys of State and local governments and small private establishments were conducted in even-numbered years, and surveys of medium and large establishments were conducted in odd-numbered years. The small establishment survey includes all private nonfarm establishments with fewer than 100 workers, while the State and local government survey includes all governments, regardless of the number of workers. All three surveys include full- and part-time workers, and workers in all 50 States and the District of Columbia.

FOR ADDITIONAL INFORMATION on the Employee Benefits Survey, contact the Office of Compensation Levels and Trends on the Internet: **http://www.bls.gov/ebs/**

Work stoppages

Description of the series

Data on work stoppages measure the number and duration of major strikes or lockouts (involving 1,000 workers or more) occurring during the month (or year), the number of workers involved, and the amount of work time lost because of stoppage. These data are presented in table 27.

Data are largely from a variety of published sources and cover only establishments directly involved in a stoppage. They do not measure the indirect or secondary effect of stoppages on other establishments whose employees are idle owing to material shortages or lack of service.

Definitions

Number of stoppages: The number of strikes and lockouts involving 1,000 workers or more and lasting a full shift or longer.

Workers involved: The number of workers directly involved in the stoppage.

Number of days idle: The aggregate number of workdays lost by workers involved in the stoppages.

Days of idleness as a percent of estimated working time: Aggregate workdays lost as a percent of the aggregate number of standard workdays in the period multiplied by total employment in the period.

Notes on the data

This series is not comparable with the one terminated in 1981 that covered strikes involving six workers or more.

FOR ADDITIONAL INFORMATION on work stoppages data, contact the Office of Compensation and Working Conditions: (202) 691–6282, or the Internet:

http:/www.bls.gov/cba/

Price Data

(Tables 2; 32–42)

PRICE DATA are gathered by the Bureau of Labor Statistics from retail and primary markets in the United States. Price indexes are given in relation to a base period—1982 = 100 for many Producer Price Indexes, 1982–84 = 100 for many Consumer Price Indexes (unless otherwise noted), and 1990 = 100 for International Price Indexes.

Consumer Price Indexes

Description of the series

The **Consumer Price Index** (CPI) is a measure of the average change in the prices paid by urban consumers for a fixed market basket of goods and services. The CPI is calculated monthly for two population groups, one consisting only of urban households whose primary source of income is derived from the employment of wage earners and clerical workers, and the other consisting of all urban households. The wage earner index (CPI-W) is a continuation of the historic index that was introduced well over a half-century ago for use in wage negotiations. As new uses were developed for the CPI in recent years, the need for a broader and more representative index became apparent. The all-urban consumer index (CPI-U), introduced in 1978, is representative of the 1993–95 buying habits of about 87 percent of the noninstitutional population of the United States at that time, compared with 32 percent represented in the CPI-W. In addition to wage earners and clerical workers, the CPI-U covers professional, managerial, and technical workers, the self-employed, short-term workers, the unemployed, retirees, and others not in the labor force.

The CPI is based on prices of food, clothing, shelter, fuel, drugs, transportation fares, doctors' and dentists' fees, and other goods and services that people buy for day-to-day living. The quantity and quality of these items are kept essentially unchanged between major revisions so that only price changes will be measured. All taxes directly associated with the purchase and use of items are included in the index.

Data collected from more than 23,000 retail establishments and 5,800 housing units in 87 urban areas across the country are used to develop the "U.S. city average." Separate estimates for 14 major urban centers are presented in table 33. The areas listed are as indicated in footnote 1 to the table. The area indexes measure only the average change in prices for each area since the base period, and do not indicate differences in the level of prices among cities.

Notes on the data

In January 1983, the Bureau changed the way in which homeownership costs are meaured for the CPI-U. A rental equivalence method replaced the asset-price approach to homeownership costs for that series. In January 1985, the same change was made in the CPI-W. The central purpose of the change was to separate shelter costs from the investment component of home-ownership so that the index would reflect only the cost of shelter services provided by owner-occupied homes. An updated CPI-U and CPI-W were introduced with release of the January 1987 and January 1998 data.

FOR ADDITIONAL INFORMATION on consumer prices, contact the Division of Consumer Prices and Price Indexes: (202) 691–7000.

Producer Price Indexes

Description of the series

Producer Price Indexes (PPI) measure average changes in prices received by domestic producers of commodities in all stages of processing. The sample used for calculating these indexes currently contains about 3,200 commodities and about 80,000 quotations

per month, selected to represent the movement of prices of all commodities produced in the manufacturing; agriculture, forestry, and fishing; mining; and gas and electricity and public utilities sectors. The stage-of-processing structure of PPI organizes products by class of buyer and degree of fabrication (that is, finished goods, intermediate goods, and crude materials). The traditional commodity structure of PPI organizes products by similarity of end use or material composition. The industry and product structure of PPI organizes data in accordance with the Standard Industrial Classification (SIC) and the product code extension of the SIC developed by the U.S. Bureau of the Census.

To the extent possible, prices used in calculating Producer Price Indexes apply to the first significant commercial transaction in the United States from the production or central marketing point. Price data are generally collected monthly, primarily by mail questionnaire. Most prices are obtained directly from producing companies on a voluntary and confidential basis. Prices generally are reported for the Tuesday of the week containing the 13th day of the month.

Since January 1992, price changes for the various commodities have been averaged together with implicit quantity weights representing their importance in the total net selling value of all commodities as of 1987. The detailed data are aggregated to obtain indexes for stage-of-processing groupings, commodity groupings, durability-of-product groupings, and a number of special composite groups. All Producer Price Index data are subject to revision 4 months after original publication.

FOR ADDITIONAL INFORMATION on producer prices, contact the Division of Industrial Prices and Price Indexes: (202) 691–7705.

International Price Indexes

Description of the series

The **International Price Program** produces monthly and quarterly export and import price indexes for nonmilitary goods and services traded between the United States and the rest of the world. The export price index provides a measure of price change for all products sold by U.S. residents to foreign buyers. ("Residents" is defined as in the national income accounts; it includes corporations, businesses, and individuals, but does not require the organizations to be U.S. owned nor the individuals to have U.S. citizenship.) The import price index provides a measure of price change for goods purchased from other countries by U.S. residents.

The product universe for both the import and export indexes includes raw materials, agricultural products, semifinished manufactures, and finished manufactures, including both capital and consumer goods. Price data for these items are collected primarily by mail questionnaire. In nearly all cases, the data are collected directly from the exporter or importer, although in a few cases, prices are obtained from other sources.

To the extent possible, the data gathered refer to prices at the U.S. border for exports and at either the foreign border or the U.S. border for imports. For nearly all products, the prices refer to transactions completed during the first week of the month. Survey respondents are asked to indicate all discounts, allowances, and rebates applicable to the reported prices, so that the price used in the calculation of the indexes is the actual price for which the product was bought or sold.

In addition to general indexes of prices for U.S. exports and imports, indexes are also published for detailed product categories of exports and imports. These categories are defined according to the five-digit level of detail for the Bureau of Economic Analysis End-use Classification, the three-digit level for the Standard Industrial Classification (SITC), and the four-digit level of detail for the Harmonized System. Aggregate import indexes by coun-try or region of origin are also available.

BLS publishes indexes for selected categories of internationally traded services, calculated on an international basis and on a balance-of-payments basis.

Notes on the data

The export and import price indexes are weighted indexes of the Laspeyres type. The trade weights currently used to compute both indexes relate to 2000.

Because a price index depends on the same items being priced from period to period, it is necessary to recognize when a product's specifications or terms of transaction have been modified. For this reason, the Bureau's questionnaire requests detailed descriptions of the physical and functional characteristics of the products being priced, as well as information on the number of units bought or sold, discounts, credit terms, packaging, class of buyer or seller, and so forth. When there are changes in either the specifications or terms of transaction of a product, the dollar value of each change is deleted from the total price change to obtain the "pure" change. Once this value is determined, a linking procedure is employed which allows for the continued repricing of the item.

FOR ADDITIONAL INFORMATION on international prices, contact the Division of International Prices: (202) 691–7155.

Productivity Data

(Tables 2; 43–46)

Business sector and major sectors

Description of the series

The productivity measures relate real output to real input. As such, they encompass a family of measures which include single-factor input measures, such as output per hour, output per unit of labor input, or output per unit of capital input, as well as measures of multifactor productivity (output per unit of combined labor and capital inputs). The Bureau indexes show the change in output relative to changes in the various inputs. The measures cover the business, nonfarm business, manufacturing, and nonfinancial corporate sectors.

Corresponding indexes of hourly compensation, unit labor costs, unit nonlabor payments, and prices are also provided.

Definitions

Output per hour of all persons (labor productivity) is the quantity of goods and services produced per hour of labor input. **Output per unit of capital services** (capital productivity) is the quantity of goods and services produced per unit of capital services input. **Multifactor productivity** is the quantity of goods and services produced per combined inputs. For private business and private nonfarm business, inputs include labor and capital units. For manufacturing, inputs include labor, capital, energy, non-energy materials, and purchased business ser-vices.

Compensation per hour is total compensation divided by hours at work. Total compensation equals the wages and salaries of employees plus employers' contributions for social insurance and private benefit plans, plus an estimate of these payments for the self-employed (except for nonfinancial corporations in which there are no self-employed). **Real compensation per hour** is compensation per hour deflated by the change in the Consumer Price Index for All Urban Consumers.

Unit labor costs are the labor compensation costs expended in the production of a unit of output and are derived by dividing compensation by output. **Unit nonlabor payments** include profits, depreciation, interest, and indirect taxes per unit of output. They are computed by subtracting compensation of all persons from current-dollar value of output and dividing by output.

Unit nonlabor costs contain all the components of unit nonlabor payments except unit profits.

Unit profits include corporate profits with inventory valuation and capital consumption adjustments per unit of output.

Hours of all persons are the total hours at work of payroll workers, self-employed persons, and unpaid family workers.

Labor inputs are hours of all persons adjusted for the effects of changes in the education and experience of the labor force.

Capital services are the flow of services from the capital stock used in production. It is developed from measures of the net stock of physical assets—equipment, structures, land, and inventories—weighted by rental prices for each type of asset.

Combined units of labor and capital inputs are derived by combining changes in labor and capital input with weights which represent each component's share of total cost. Combined units of labor, capital, energy, materials, and purchased business services are similarly derived by combining changes in each input with weights that represent each input's share of total costs. The indexes for each input and for combined units are based on changing weights which are averages of the shares in the current and preceding year (the Tornquist index-number formula).

Notes on the data

Business sector output is an annually-weighted index constructed by excluding from real gross domestic product (GDP) the following outputs: general government, nonprofit institutions, paid employees of private households, and the rental value of owner-occupied dwellings. Nonfarm business also excludes farming. Private business and private nonfarm business further exclude government enterprises. The measures are supplied by the U.S. Department of Commerce's Bureau of Economic Analysis. Annual estimates of manufacturing sectoral output are produced by the Bureau of Labor Statistics. Quarterly manufacturing output indexes from the Federal Reserve Board are adjusted to these annual output measures by the BLS. Compensation data are developed from data of the Bureau of Economic Analysis and the Bureau of Labor Statistics. Hours data are developed from data of the Bureau of Labor Statistics.

The productivity and associated cost measures in tables 43–46 describe the relationship between output in real terms and the labor and capital inputs involved in its production. They show the changes from period to period in the amount of goods and services produced per unit of input.

Although these measures relate output to hours and capital services, they do not measure the contributions of labor, capital, or any other specific factor of production. Rather, they reflect the joint effect of many influences, including changes in technology; shifts in the composition of the labor force; capital investment; level of output; changes in the utilization of capacity, energy, material, and research and development; the organization of production; managerial skill; and characteristics and efforts of the work force.

FOR ADDITIONAL INFORMATION on this productivity series, contact the Division of Productivity Research: (202) 691–5606.

Industry productivity measures

Description of the series

The BLS industry productivity data supplement the measures for the business economy and major sectors with annual measures of labor productivity for selected industries at the three- and four-digit levels of the Standard Industrial Classification system. In addition to labor productivity, the industry data also include annual measures of compensation and unit labor costs for three-digit industries and measures of multifactor productivity for three-digit manufacturing industries and railroad transportation. The industry measures differ in methodology and data sources from the productivity measures for the major sectors because the industry measures are developed independently of the National Income and Product Accounts framework used for the major sector measures.

Definitions

Output per hour is derived by dividing an index of industry output by an index of labor input. For most industries, **output** indexes are derived from data on the value of industry output adjusted for price change. For the remaining industries, output indexes are derived from data on the physical quantity of production.

The **labor input** series consist of the hours of all employees (production workers and nonproduction workers), the hours of all persons (paid employees, partners, proprietors, and unpaid family workers), or the number of employees, depending upon the industry.

Unit labor costs represent the labor compensation costs per unit of output produced, and are derived by dividing an index of labor compensation by an index of output. **Labor compensation** includes payroll as well as supplemental payments, including both legally required expenditures and payments for voluntary programs.

Multifactor productivity is derived by dividing an index of industry output by an index of the combined inputs consumed in producing that output. **Combined inputs** include capital, labor, and intermediate purchases. The measure of **capital input** used represents the flow of services from the capital stock used in production. It is developed from measures of the net stock of physical assets—equipment, structures, land, and inventories. The measure of **intermediate purchases** is a combination of purchased materials, services, fuels, and electricity.

Notes on the data

The industry measures are compiled from data produced by the Bureau of Labor Statistics and the Bureau of the Census,with additional data supplied by other government agencies, trade associations, and other sources.

For most industries, the productivity indexes refer to the output per hour of all employees. For some trade and services industries, indexes of output per hour of all persons (including self-employed) are constructed. For some transportation industries, only indexes of output per employee are prepared.

FOR ADDITIONAL INFORMATION on this series, contact the Division of Industry Productivity Studies: (202) 691–5618.

International Comparisons

(Tables 47–49)

Labor force and unemployment

Description of the series

Tables 47 and 48 present comparative measures of the labor force, employment, and unemployment—approximating U.S. concepts—for the United States, Canada, Australia, Japan, and several European countries.

The unemployment statistics (and, to a lesser extent, employment statistics) published by other industrial countries are not, in most cases, comparable to U.S. unemployment statistics. Therefore, the Bureau adjusts the figures for selected countries, where necessary, for all known major definitional differences. Although precise comparability may not be achieved, these adjusted figures provide a better basis for international comparisons than the figures regularly published by each country. For further information on adjustments and comparability issues, see Constance Sorrentino, "International unemployment rates: how comparable are they?" *Monthly Labor Review*, June 2000, pp. 3-20.

Definitions

For the principal U.S. definitions of the **labor force**, **employment**, and **unemployment**, see the Notes section on Employment and Unemployment Data: Household survey data.

Notes on the data

The adjusted statistics have been adapted to the age at which compulsory schooling ends in each country, rather than to the U.S. standard of 16 years of age and older. Therefore, the adjusted statistics relate to the population aged 16 and older in France, Sweden, and the United Kingdom; 15 and older in Australia, Japan, Germany, Italy from 1993 onward, and the Netherlands; and 14 and older in Italy prior to 1993. An exception to this rule is that the Canadian statistics for 1976 onward are adjusted to cover ages 16 and older, whereas the age at which compulsory schooling ends remains at 15. The institutional population is included in the denominator of the labor force participation rates and employment-population ratios for Japan and Germany; it is excluded for the United States and the other countries.

In the U.S. labor force survey, persons on layoff who are awaiting recall to their jobs are classified as unemployed. European and Japanese layoff practices are quite different in nature from those in the United States; therefore, strict application of the U.S. definition has not been made on this point. For further information, see *Monthly Labor Review*, December 1981, pp. 8–11.

The figures for one or more recent years for France, Germany, Italy, the Netherlands, and the United Kingdom are calculated using adjustment factors based on labor force surveys for earlier years and are considered preliminary. The recent-year measures for these countries, therefore, are subject to revision whenever data from more current labor force surveys become available.

There are breaks in the data series for the United States (1990, 1994, 1997, 1998, 1999, 2000), Canada (1976) France (1992), Germany (1991), Italy (1991, 1993), the Netherlands (1988), and Sweden (1987).

For the United States, the break in series reflects a major redesign of the labor force survey questionnaire and collection methodology introduced in January 1994. Revised population estimates based on the 1990 census, adjusted for the estimated undercount, also were incorporated. In 1996, previously published data for the 1990–93 period were revised to reflect the 1990 census-based population controls, adjusted for the undercount. In 1997, revised population controls were introduced into the household survey. Therefore, the data are not strictly conparable with prior years. In 1998, new composite estimation procedures and minor revisions in population controls were introduced into the household survey. Therefore, the data are not strictly comparable with data for 1997 and earlier years. See the Notes section on Employment and Unemployment Data of this *Review*.

BLS recently introduced a new adjusted series for Canada. Beginning with the data for 1976, Canadian data are adjusted to more closely approximate U.S. concepts. Adjustments are made to the unemployed and labor force to exclude: (1) 15-year-olds; (2) passive jobseekers (persons only reading newspaper ads as their method of job search); (3) persons waiting to start a new job who did not seek work in the past 4 weeks; and (4) persons unavailable for work due to personal or family responsibilities. An adjustment is made to include full-tine students looking for full-time work. The impact of the adjustments was to lower the annual average unemployment rate by 0.1–0.4 percentage point in the 1980s and 0.4–1.0 percentage point in the 1990s.

For France, the 1992 break reflects the substitution of standardized European Union Statistical Office (EUROSTAT) unemployment statistics for the unemployment data estimated according to the International Labor Office (ILO) definition and published in the Organization for Economic Cooperation and Development (OECD) annual yearbook and quarterly update. This change was made because the EUROSTAT data are more up-to-date than the OECD figures. Also, since 1992, the EUROSTAT definitions are closer to the U.S. definitions than they were in prior years. The impact of this revision was to lower the unemployment rate by 0.1 percentage point in 1992 and 1993, by 0.4 percentage point in 1994, and 0.5 percentage point in 1995.

For Germany, the data for 1991 onward refer to unified Germany. Data prior to 1991 relate to the former West Germany. The impact of including the former East Germany was to increase the unemployment rate from 4.3 to 5.6 percent in 1991.

For Italy, the 1991 break reflects a revision in the method of weighting sample data. The impact was to increase the unemployment rate by approximately 0.3 percentage point, from 6.6 to 6.9 percent in 1991.

In October 1992, the survey methodology was revised and the definition of unemployment was changed to include only those who were actively looking for a job within the 30 days preceding the survey and who were available for work. In addition, the lower age limit for the labor force was raised from 14 to 15 years. (Prior to these changes, BLS adjusted Italy's published unemployment rate downward by excluding from the unemployed those persons who had not actively sought work in the past 30 days.) The break in the series also reflects the incorporation of the 1991 population census results. The impact of these changes was to raise Italy's adjusted unemployment rate by approximately 1.2 percentage points, from 8.3 to 9.5 percent in fourth-quarter 1992. These changes did not affect employment significantly, except in 1993. Estimates by the Italian Statistical Office indicate that employment declined by about 3 percent in 1993, rather than the nearly 4 percent indicated by the data shown in table 44. This difference is attributable mainly to the incorporation of the 1991 population benchmarks in the 1993 data. Data for earlier years have not been adjusted to incorporate the 1991 census results.

For the Netherlands, a new survey questionnaire was introduced in 1992 that allowed for a closer application of ILO guidelines. EUROSTAT has revised the Dutch series back to 1988 based on the 1992 changes. The 1988 revised unemployment rate is 7.6 percent; the previous estimate for the same year was 9.3 percent.

There have been two breaks in series in the Swedish labor force survey, in 1987 and 1993. Adjustments have been made for the 1993 break back to 1987. In 1987, a new questionnaire was introduced. Questions regarding current availability were added and the period of active workseeking was reduced from 60 days to 4 weeks. These changes lowered Sweden's 1987 unemployment rate by 0.4 percentage point, from 2.3 to 1.9 percent. In 1993, the measurement period for the labor force survey was changed to represent all 52 weeks of the year rather than one week each month and a new adjustment for population totals was introduced. The impact

was to raise the unemployment rate by approximately 0.5 percentage point, from 7.6 to 8.1 percent. Statistics Sweden revised its labor force survey data for 1987–92 to take into account the break in 1993. The adjustment raised the Swedish unemployment rate by 0.2 percentage point in 1987 and gradually rose to 0.5 percentage point in 1992.

Beginning with 1987, BLS has adjusted the Swedish data to classify students who also sought work as unemployed. The impact of this change was to increase the adjusted unemployment rate by 0.1 percentage point in 1987 and by 1.8 percentage points in 1994, when unemployment was higher. In 1998, the adjusted unemployment rate had risen from 6.5 to 8.4 percent due to the adjustment to include students.

The net effect of the 1987 and 1993 changes and the BLS adjustment for students seeking work lowered Sweden's 1987 unemployment rate from 2.3 to 2.2 percent.

FOR ADDITIONAL INFORMATION on this series, contact the Division of Foreign Labor Statistics: (202) 691–5654.

Manufacturing productivity and labor costs

Description of the series

Table 49 presents comparative indexes of manufacturing labor productivity (output per hour), output, total hours, compensation per hour, and unit labor costs for the United States, Canada, Japan, and nine European countries. These measures are trend comparisons—that is, series that measure changes over time—rather than level comparisons. There are greater technical problems in comparing the levels of manufacturing output among countries.

BLS constructs the comparative indexes from three basic aggregate measures—output, total labor hours, and total compensation. The hours and compensation measures refer to all employed persons (wage and salary earners plus self-employed persons and unpaid family workers) in the United States, Canada, Japan, France, Germany, Norway, and Sweden, and to all employees (wage and salary earners) in the other countries.

Definitions

Output, in general, refers to value added in manufacturing from the national accounts of each country. However, the output series for Japan prior to 1970 is an index of industrial production, and the national accounts measures for the United Kingdom are essentially identical to their indexes of industrial production.

The 1977–97 output data for the United States are the gross product originating (value added) measures prepared by the Bureau of Economic Analysis of the U.S. Department of Commerce. Comparable manufacturing output data currently are not available prior to 1977.

U.S. gross product originating is a chain-type annual-weighted series. (For more information on the U.S. measure, see Robert E. Yuskavage, "Improved Estimates of Gross Product by Industry, 1959–94," *Survey of Current Business*, August 1996, pp. 133–55.) The Japanese value added series is based upon one set of fixed price weights for the years 1970 through 1997. Output series for the other foreign economies also employ fixed price weights, but the weights are updated periodically (for example, every 5 or 10 years).

To preserve the comparability of the U.S. measures with those for other economies, BLS uses gross product originating in manufacturing for the United States for these comparative measures. The gross product originating series differs from the manufacturing output series that BLS publishes in its news releases on quarterly measures of U.S. productivity and costs (and that underlies the measures that appear in tables 43 and 45 in this section). The quarterly measures are on a "sectoral output" basis, rather than a value-added basis. Sectoral output is gross output less intrasector transactions.

Total labor hours refers to hours worked in all countries. The measures are developed from statistics of manufacturing employment and average hours. The series used for France (from 1970 forward), Norway, and Sweden are official series published with the national accounts. Where official total hours series are not available, the measures are developed by BLS using employment figures published with the national accounts, or other comprehensive employment series, and estimates of annual hours worked. For Germany, BLS uses estimates of average hours worked developed by a research institute connected to the Ministry of Labor for use with the national accounts employment figures. For the other countries, BLS constructs its own estimates of average hours.

Denmark has not published estimates of average hours for 1994–97; therefore, the BLS measure of labor input for Denmark ends in 1993.

Total compensation (labor cost) includes all payments in cash or in-kind made directly to employees plus employer expenditures for legally required insurance programs and contractual and private benefit plans. The measures are from the national accounts of each country, except those for Belgium, which are developed by BLS using statistics on employment, average hours, and hourly compensation. For Canada, France, and Sweden, compensation is increased to account for other significant taxes on payroll or employment. For the United Kingdom, compensation is reduced between 1967 and 1991 to account for employment-related subsidies. Self-employed workers are included in the all-employed-persons measures by assuming that their hourly compensation is equal to the average for wage and salary employees.

Notes on the data

In general, the measures relate to total manufacturing as defined by the International Standard Industrial Classification. However, the measures for France (for all years) and Italy (beginning 1970) refer to mining and manufacturing less energy-related products, and the measures for Denmark include mining and exclude manufacturing handicrafts from 1960 to 1966.

The measures for recent years may be based on current indicators of manufacturing output (such as industrial production indexes), employment, average hours, and hourly compensation until national accounts and other statistics used for the long-term measures become available.

FOR ADDITIONAL INFORMATION on this series, contact the Division of Foreign Labor Statistics: (202) 691–5654.

Occupational Injury and Illness Data

(Tables 50–51)

Survey of Occupational Injuries and Illnesses

Description of the series

The Survey of Occupational Injuries and Illnesses collects data from employers about their workers' job-related nonfatal injuries and illnesses. The information that employers provide is based on records that they maintain under the Occupational Safety and Health Act of 1970. Self-employed individuals, farms with fewer than 11 employees, employers regulated by other Federal safety and health laws, and

Federal, State, and local government agencies are excluded from the survey.

The survey is a Federal-State cooperative program with an independent sample selected for each participating State. A stratified random sample with a Neyman allocation is selected to represent all private industries in the State. The survey is stratified by Standard Industrial Classification and size of employment.

Definitions

Under the Occupational Safety and Health Act, employers maintain records of nonfatal work-related injuries and illnesses that involve one or more of the following: loss of consciousness, restriction of work or motion, transfer to another job, or medical treatment other than first aid.

Occupational injury is any injury such as a cut, fracture, sprain, or amputation that results from a work-related event or a single, instantaneous exposure in the work environment.

Occupational illness is an abnormal condition or disorder, other than one resulting from an occupational injury, caused by exposure to factors associated with employment. It includes acute and chronic illnesses or disease which may be caused by inhalation, absorption, ingestion, or direct contact.

Lost workday injuries and illnesses are cases that involve days away from work, or days of restricted work activity, or both.

Lost workdays include the number of workdays (consecutive or not) on which the employee was either away from work or at work in some restricted capacity, or both, because of an occupational injury or illness. BLS measures of the number and incidence rate of lost workdays were discontinued beginning with the 1993 survey. The number of days away from work or days of restricted work activity does not include the day of injury or onset of illness or any days on which the employee would not have worked, such as a Federal holiday, even though able to work.

Incidence rates are computed as the number of injuries and/or illnesses or lost work days per 100 full-time workers.

Notes on the data

The definitions of occupational injuries and illnesses are from *Recordkeeping Guidelines for Occupational Injuries and Illnesses* (U.S. Department of Labor, Bureau of Labor Statistics, September 1986).

Estimates are made for industries and employment size classes for total recordable cases, lost workday cases, days away from work cases, and nonfatal cases without lost workdays. These data also are shown separately for injuries. Illness data are available for seven categories: occupational skin diseases or disorders, dust diseases of the lungs, respiratory conditions due to toxic agents, poisoning (systemic effects of toxic agents), disorders due to physical agents (other than toxic materials), disorders associated with repeated trauma, and all other occupational illnesses.

The survey continues to measure the number of new work-related illness cases which are recognized, diagnosed, and reported during the year. Some conditions, for example, long-term latent illnesses caused by exposure to carcinogens, often are difficult to relate to the workplace and are not adequately recognized and reported. These long-term latent illnesses are believed to be understated in the survey's illness measure. In contrast, the overwhelming majority of the reported new illnesses are those which are easier to directly relate to workplace activity (for example, contact dermatitis and carpal tunnel syndrome).

Most of the estimates are in the form of incidence rates, defined as the number of injuries and illnesses per 100 equivalent full-time workers. For this purpose, 200,000 employee hours represent 100 employee years (2,000 hours per employee). Full detail on the available measures is presented in the annual bulletin, *Occupational Injuries and Illnesses: Counts, Rates, and Characteristics.*

Comparable data for more than 40 States and territories are available from the BLS Office of Safety, Health and Working Conditions. Many of these States publish data on State and local government employees in addition to private industry data.

Mining and railroad data are furnished to BLS by the Mine Safety and Health Administration and the Federal Railroad Administration. Data from these organizations are included in both the national and State data published annually.

With the 1992 survey, BLS began publishing details on serious, nonfatal incidents resulting in days away from work. Included are some major characteristics of the injured and ill workers, such as occupation, age, gender, race, and length of service, as well as the circumstances of their injuries and illnesses (nature of the disabling condition, part of body affected, event and exposure, and the source directly producing the condition). In general, these data are available nationwide for detailed industries and for individual States at more aggregated industry levels.

FOR ADDITIONAL INFORMATION on occupational injuries and illnesses, contact the Office of Occupational Safety, Health and Working Conditions at (202) 691–6180, or access the Internet at:

http://www.bls.gov/iip/

Census of Fatal Occupational Injuries

The Census of Fatal Occupational Injuries compiles a complete roster of fatal job-related injuries, including detailed data about the fatally injured workers and the fatal events. The program collects and cross-checks fatality information from multiple sources, including death certificates, State and Federal workers' compensation reports, Occupational Safety and Health Administration and Mine Safety and Health Administration records, medical examiner and autopsy reports, media accounts, State motor vehicle fatality records, and follow-up questionnaires to employers.

In addition to private wage and salary workers, the self-employed, family members, and Federal, State, and local government workers are covered by the program. To be included in the fatality census, the decedent must have been employed (that is working for pay, compensation, or profit) at the time of the event, engaged in a legal work activity, or present at the site of the incident as a requirement of his or her job.

Definition

A fatal work injury is any intentional or unintentional wound or damage to the body resulting in death from acute exposure to energy, such as heat or electricity, or kinetic energy from a crash, or from the absence of such essentials as heat or oxygen caused by a specific event or incident or series of events within a single workday or shift. Fatalities that occur during a person's commute to or from work are excluded from the census, as well as work-related illnesses, which can be difficult to identify due to long latency periods.

Notes on the data

Twenty-eight data elements are collected, coded, and tabulated in the fatality program, including information about the fatally injured worker, the fatal incident, and the machinery or equipment involved. Summary worker demographic data and event characteristics are included in a national news release that is available about 8 months after the end of the reference year. The Census of

Fatal Occupational Injuries was initiated in 1992 as a joint Federal-State effort. Most States issue summary information at the time of the national news release.

FOR ADDITIONAL INFORMATION on the Census of Fatal Occupational Injuries contact the BLS Office of Safety, Health, and Working Conditions at (202) 691–6175, or the Internet at: **http://www.bls.gov/iip/**

Bureau of Labor Statistics Internet

The Bureau of Labor Statistics World Wide Web site on the Internet contains a range of data on consumer and producer prices, employment and unemployment, occupational compensation, employee benefits, workplace injuries and illnesses, and productivity. The homepage can be accessed using any Web browser:

http://www.bls.gov

Also, some data can be accessed through anonymous FTP or Gopher at

stats.bls.gov

1. Labor market indicators

Selected indicators	2000	2001	1999	2000				2001			
			IV	I	II	III	IV	I	II	III	IV
Employment data											
Employment status of the civilian noninstitutionalized population (household survey):[1]											
Labor force participation rate	67.2	66.9	67.1	67.3	67.3	67.0	67.1	67.2	66.9	66.8	66.9
Employment-population ratio	64.5	63.8	64.3	64.6	64.6	64.3	64.4	64.4	63.9	63.6	63.1
Unemployment rate	4.0	4.8	4.1	4.0	4.0	4.1	4.0	4.2	4.5	4.8	5.6
Men	3.9	4.8	4.0	3.9	3.9	3.9	4.0	4.2	4.6	4.9	5.7
16 to 24 years	9.7	11.4	10.3	9.7	9.7	9.8	9.6	10.6	11.2	11.5	12.7
25 years and over	2.8	3.6	2.9	2.8	2.8	2.8	2.9	3.1	3.4	3.7	4.4
Women	4.1	4.7	4.2	4.2	4.1	4.2	4.0	4.1	4.3	4.8	5.5
16 to 24 years	8.9	9.7	9.4	9.5	9.0	8.5	8.4	8.7	9.2	10.0	10.6
25 years and over	3.2	3.7	3.1	3.1	3.2	3.3	3.0	3.3	3.4	3.7	4.4
Employment, nonfarm (payroll data), in thousands:[1]											
Total	131,759	132,212	129,783	130,984	131,854	131,927	132,264	132,559	132,483	132,358	131,502
Private sector	111,079	111,339	109,507	110,456	110,917	111,293	111,669	111,886	111,702	111,385	110,480
Goods-producing	25,709	25,121	25,524	25,704	25,711	25,732	25,704	25,621	25,310	24,991	14,590
Manufacturing	18,469	17,698	18,482	18,504	18,510	18,487	18,378	18,188	17,882	17,556	17,174
Service-producing	106,050	107,090	104,259	105,280	106,143	106,195	106,560	106,938	107,173	107,367	106,912
Average hours:											
Private sector	34.5	34.2	34.5	34.5	34.5	34.4	34.3	34.3	34.2	34.1	34.1
Manufacturing	41.6	40.7	41.7	41.8	41.8	41.5	41.1	41.0	40.8	40.7	40.5
Overtime	4.6	3.9	4.7	4.7	4.7	4.5	4.3	4.1	3.9	4.0	3.8
Employment Cost Index[2]											
Percent change in the ECI, compensation:											
All workers (excluding farm, household and Federal workers)	4.1	4.1	.9	1.3	1.0	1.0	.7	1.3	.9	1.2	.8
Private industry workers	4.4	4.2	.9	1.5	1.2	.9	.7	1.4	1.0	.9	.8
Goods-producing[3]	4.4	3.8	1.0	1.6	1.2	.9	.6	1.3	.9	.7	.8
Service-producing[3]	4.4	4.3	.8	1.4	1.2	1.0	.7	1.4	1.0	1.0	.8
State and local government workers	3.0	4.2	1.0	.6	.3	1.3	.7	.9	.6	2.1	.6
Workers by bargaining status (private industry):											
Union	4.0	4.2	.7	1.3	1.0	1.2	.5	.7	1.1	1.0	1.4
Nonunion	4.4	4.1	1.0	1.5	1.2	1.0	.7	1.5	1.0	.9	.7

[1] Quarterly data seasonally adjusted.

[2] Annual changes are December-to-December changes. Quarterly changes are calculated using the last month of each quarter.

[3] Goods-producing industries include mining, construction, and manufacturing. Service-producing industries include all other private sector industries.

2. Annual and quarterly percent changes in compensation, prices, and productivity

Selected measures	2000	2001	1999	2000				2001			
			IV	I	II	III	IV	I	II	III	IV
Compensation data[1,2]											
Employment Cost Index—compensation (wages, salaries, benefits):											
Civilian nonfarm	4.1	4.1	0.9	1.3	1.0	1.0	0.7	1.3	0.9	1.2	0.8
Private nonfarm	4.4	4.2	.9	1.5	1.2	.9	.7	1.4	1.0	.9	.8
Employment Cost Index—wages and salaries:											
Civilian nonfarm	3.8	3.7	.8	1.1	1.0	1.1	.6	1.1	.9	1.0	.7
Private nonfarm	3.9	3.8	.9	1.2	1.0	1.0	.6	1.2	1.0	.8	.8
Price data[1]											
Consumer Price Index (All Urban Consumers): All Items	1.6	3.4	–.2	1.7	.7	.8	.2	1.3	1.0	.2	–.9
Producer Price Index:											
Finished goods	3.5	–1.8	.1	1.5	1.8	.6	.4	.9	.8	–.3	–3.2
Finished consumer goods	4.3	–2.4	–.2	1.9	1.3	.8	.1	1.2	1.0	–.3	–4.3
Capital equipment	1.2	1.0	1.2	.1	.1	–7.2	1.1	–.1	–7.1	–.1	.1
Intermediate materials, supplies, and components	4.0	–.2	8.0	1.8	1.4	1.0	–.3	.2	.6	–1.0	–3.6
Crude materials	31.1	–8.8	–3.5	9.0	–6.0	2.1	9.4	–3.5	–6.6	–12.0	–12.2
Productivity data[3]											
Output per hour of all persons:											
Business sector	3.4	1.8	7.4	–.1	7.7	1.2	3.0	–.2	2.2	.7	3.4
Nonfarm business sector	3.3	1.8	7.8	.0	6.7	1.6	2.3	–.1	2.1	1.1	3.5
Nonfinancial corporations[4]	3.1	–	3.5	2.8	5.6	2.6	.7	.5	3.3	.9	–

[1] Annual changes are December-to-December changes. Quarterly changes are calculated using the last month of each quarter. Compensation and price data are not seasonally adjusted, and the price data are not compounded.

[2] Excludes Federal and private household workers.

[3] Annual rates of change are computed by comparing annual averages. Quarterly percent changes reflect annual rates of change in quarterly indexes. The data are seasonally adjusted.

[4] Output per hour of all employees.

3. Alternative measures of wage and compensation changes

Components	Quarterly average					Four quarters ending				
	2000	2001				2000	2001			
	IV	I	II	III	IV	IV	I	II	III	IV
Average hourly compensation:[1]										
All persons, business sector	9.5	5.1	5.2	3.3	2.3	7.9	7.6	6.6	5.8	4.0
All persons, nonfarm business sector	8.9	4.9	4.7	3.7	2.3	7.8	7.3	6.5	5.5	3.9
Employment Cost Index—compensation:										
Civilian nonfarm[2]	.7	1.3	.9	1.2	.8	4.1	4.1	3.9	4.1	4.1
Private nonfarm	.7	1.4	1.0	.9	.8	4.4	4.2	4.0	4.0	4.2
Union	.5	.7	1.1	1.0	1.4	4.0	3.4	3.5	3.4	4.2
Nonunion	.7	1.5	1.0	.9	.7	4.4	4.3	4.2	4.1	4.1
State and local governments	.7	.9	.6	2.1	.6	3.0	3.3	3.6	4.4	4.2
Employment Cost Index—wages and salaries:										
Civilian nonfarm[2]	.6	1.1	.9	1.0	.7	3.8	3.8	3.7	3.6	3.7
Private nonfarm	.6	1.2	1.0	.8	.8	3.9	3.8	3.8	3.6	3.8
Union	.9	.6	1.1	1.0	1.6	3.4	3.6	3.8	3.6	4.4
Nonunion	.6	1.2	.9	.8	.7	4.0	3.9	3.7	3.6	3.6
State and local governments	.7	.7	.5	1.9	.5	3.3	3.5	3.7	3.9	3.6

[1] Seasonally adjusted. "Quarterly average" is percent change from a quarter ago, at an annual rate.

[2] Excludes Federal and household workers.

4. Employment status of the population, by sex, age, race, and Hispanic origin, monthly data seasonally adjusted

[Numbers in thousands]

Employment status	Annual average		2001											2002	
	2000	2001	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept	Oct.	Nov.	Dec.	Jan.	Feb.
TOTAL															
Civilian noninstitutional population[1]	209,699	211,864	211,026	211,171	211,348	211,525	211,725	211,921	212,135	212,357	212,581	212,767	212,927	213,089	213,206
Civilian labor force	140,863	141,815	141,622	141,869	141,734	141,445	141,468	141,651	141,380	142,068	142,280	142,279	141,390	141,390	142,221
Participation rate	67.2	66.9	67.1	67.2	67.1	66.9	66.8	66.8	66.6	66.9	66.9	66.9	66.8	66.4	66.7
Employed	135,208	135,073	135,734	135,808	135,424	135,235	135,003	135,106	134,408	135,004	134,615	134,253	134,055	133,468	134,319
Employment-population ratio[2]	64.5	63.8	64.3	64.3	64.1	63.9	63.8	63.8	63.4	63.6	63.3	63.1	63.0	62.6	63.0
Unemployed	5,665	6,742	5,888	6,061	6,310	6,210	6,465	6,545	6,972	7,064	7,665	8,026	8,259	7,922	7,891
Unemployment rate	4.0	4.8	4.2	4.3	4.5	4.4	4.6	4.64.6	4.9	5.0	5.4	5.6	5.8	5.6	5.5
Not in the labor force	68,836	70,050	69,404	69,302	69,614	70,080	70,257	70,270	70,755	70,289	70,301	70,488	70,613	71,699	70,995
Men, 20 years and over															
Civilian noninstitutional population[1]	92,580	93,659	93,227	93,285	93,410	93,541	93,616	93,708	93,810	93,917	94,015	94,077	94,161	94,228	94,262
Civilian labor force	70,930	71,590	71,289	71,300	71,541	71,468	71,429	71,500	71,523	71,805	71,940	71,935	71,988	71,534	71,718
Participation rate	76.6	76.4	76.5	76.4	76.6	76.3	76.3	76.3	76.2	76.5	76.5	76.5	76.5	75.9	76.1
Employed	68,580	68,587	68,766	68,619	68,720	68,698	68,535	68,610	68,388	68,696	68,486	68,204	68,276	67,818	68,157
Employment-population ratio[2]	74.1	73.2	73.8	73.6	73.6	73.4	73.2	73.2	72.9	83.1	72.8	72.5	72.5	72.0	72.3
Agriculture	2,252	2,102	2,157	2,150	2,105	2,168	2,057	2,035	2,129	2,138	2,132	2,082	2,141	2,207	2,185
Nonagricultural industries	66,328	66,485	66,609	66,469	66,615	66,530	66,478	66,575	66,259	66,558	66,354	66,122	66,135	65,611	65,973
Unemployed	2,350	3,003	2,523	2,681	2,821	2,770	2,894	2,890	3,135	3,109	3,454	3,731	3,712	3,716	3,560
Unemployment rate	3.3	4.2	3.5	3.8	3.9	3.9	4.1	4.0	4.4	4.3	4.8	5.2	5.2	5.2	5.0
Women, 20 years and over															
Civilian noninstitutional population[1]	101,078	102,060	101,686	101,779	101,870	101,938	102,023	102,067	102,165	102,277	102,371	102,438	102,492	102,550	102,651
Civilian labor force	61,565	62,148	62,130	62,331	61,102	62,068	61,961	62,103	62,142	62,222	62,269	62,321	62,481	62,056	62,703
Participation rate	60.9	60.9	61.1	61.2	61.0	60.9	60.7	60.8	60.8	60.8	60.8	60.8	61.0	60.5	61.1
Employed	59,352	59,596	59,869	60,089	59,758	59,716	59,555	59,640	59,526	59,463	59,302	59,288	59,205	59,102	59,588
Employment-population ratio[2]	58.7	58.4	58.9	59.0	58.7	58.6	58.4	58.4	58.3	58.1	57.9	57.9	57.8	57.6	58.0
Agriculture	818	82	824	811	827	816	772	784	781	823	842	852	859	824	829
Nonagricultural industries	58,535	58,779	59,045	59,278	58,931	58,900	58,783	58,856	58,745	58,640	58,460	58,436	58,346	58,277	58,759
Unemployed	2,212	2,551	2,261	2,242	2,344	2,352	2,406	2,463	2,616	2,759	2,967	3,303	3,276	2,954	3,116
Unemployment rate	3.6	4.1	3.6	3.6	3.8	3.8	3.9	4.0	4.2	4.4	3.8	4.9	5.2	4.8	5.0
Both sexes, 16 to 19 years															
Civilian noninstitutional population[1]	16,042	16,146	16,113	16,108	16,068	16,046	16,086	16,145	16,161	16,163	16,195	16,252	16,275	16,310	16,293
Civilian labor force	8,369	8,077	8,203	8,238	8,091	7,909	8,078	8,048	7,715	8,041	8,071	8,023	7,845	7,800	7,790
Participation rate	52.2	50.0	50.9	51.1	50.4	49.3	50.2	49.8	47.7	49.7	49.8	49.4	48.2	47.8	47.8
Employed	7,276	6,889	7,099	7,100	6,946	6,821	6,913	6,856	6,494	6,845	6,827	6,761	6,574	6,548	6,575
Employment-population ratio[2]	45.4	42.7	44.1	44.1	43.2	42.5	43.0	42.5	40.2	42.3	42.2	41.6	40.4	40.1	40.4
Agriculture	235	225	152	202	235	209	215	236	216	220	229	220	246	241	233
Nonagricultural industries	7,041	6,664	6,947	6,898	6,711	6,612	6,698	6,620	6,278	6,625	6,598	6,541	6,328	6,307	6,342
Unemployed	1,093	1,187	1,104	1,138	1,145	1,088	1,165	1,192	1,221	1,106	1,244	1,262	1,271	1,252	1,215
Unemployment rate	13.1	14.7	13.5	13.8	13.2	13.8	14.4	14.8	15.8	14.9	15.4	15.7	16.2	16.1	15.6
White															
Civilian noninstitutional population[1]	174,428	175,888	175,362	175,416	175,533	175,653	175,789	175,924	176,069	176,220	176,372	176,500	176,607	176,713	176,783
Civilian labor force	117,574	118,144	118,143	118,194	118,014	117,714	117,854	117,986	117,813	118,274	118,506	118,566	118,403	117,759	118,472
Participation rate	67.4	67.2	67.4	67.4	67.3	67.0	67.0	67.1	66.9	67.1	67.2	67.2	67.0	66.6	67.0
Employed	113,475	113,220	113,902	113,853	113,434	113,185	113,037	113,237	112,703	113,147	112,878	112,652	112,388	111,876	112,632
Employment-population ratio[2]	65.1	64.4	64.9	64.9	64.6	64.4	64.4	64.3	64.0	64.2	64.0	63.8	63.6	63.3	63.7
Unemployed	4,099	4,923	4,364	4,384	4,640	4,541	4,728	4,810	5,073	5,127	5,628	5,914	6,015	5,883	5,840
Unemployment rate	3.5	4.2	3.7	3.7	3.9	3.9	4.0	4.1	4.3	4.3	4.7	5.0	5.1	5.0	4.9
Black															
Civilian noninstitutional population[1]	25,218	25,559	25,412	25,441	25,472	25,501	25,533	25,565	25,604	25,644	25,686	25,720	25,752	25,785	25,813
Civilian labor force	16,603	16,719	16,660	16,750	16,678	16,644	16,739	16,685	16,720	16,827	16,748	16,687	16,833	16,769	16,747
Participation rate	65.8	65.4	65.6	65.8	65.5	65.3	65.6	65.3	65.3	65.6	65.2	64.9	65.4	65.0	64.9
Employed	15,334	15,270	15,407	15,341	15,304	15,311	15,330	15,337	15,210	15,339	15,144	15,040	15,122	15,119	15,131
Employment-population ratio[2]	60.8	59.7	60.6	60.3	60.1	60.0	60.0	60.0	59.4	59.8	59.0	58.5	58.7	58.6	58.6
Unemployed	1,269	1,450	1,253	1,409	1,374	1,333	1,409	1,348	1,510	1,488	1,604	1,647	1,711	1,650	1,616
Unemployment rate	7.6	8.7	7.5	8.4	8.2	8.0	8.4	8.1	9.0	8.8	9.6	9.9	10.2	9.8	9.6

See footnotes at end of table.

4. Continued—Employment status of the population, by sex, age, race, and Hispanic origin, monthly data seasonally adjusted

[Numbers in thousands]

Employment status	Annual average		2001											2002	
	2000	2001	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.
Hispanic origin															
Civilian noninstitutional population[1]	22,393	23,122	22,830	22,889	22,957	23,021	23,090	23,157	23,222	23,288	23,351	23,417	23,478	23,542	23,604
Civilian labor force	15,368	15,751	15,652	15,739	15,730	15,656	15,602	15,753	15,788	15,811	15,956	15,932	16,013	15,988	16,011
Participation rate	68.6	68.1	68.6	68.8	68.5	68.0	67.6	68.0	68.0	67.9	68.3	68.0	68.2	67.9	67.8
Employed	14,492	14,714	14,682	14,760	14,738	14,684	14,574	14,776	14,771	14,785	14,824	14,751	14,753	14,700	14,867
Employment-population ratio[2]	64.7	63.6	64.3	64.5	64.2	63.8	63.1	63.8	63.6	63.5	63.5	63.0	62.8	62.4	63.0
Unemployed	876	1,037	970	979	992	972	1,028	977	1,017	1,026	1,132	1,181	1,260	1,288	1,143
Unemployment rate	5.7	6.6	6.2	6.2	6.3	6.2	6.6	6.2	6.4	6.5	7.1	7.4	7.9	8.1	7.1

[1] The population figures are not seasonally adjusted.

[2] Civilian employment as a percent of the civilian noninstitutional population.

NOTE: Detail for the above race and Hispanic-origin groups will not sum to totals becausedata for the "other races" groups are not presented and Hispanics are included in both the white and black population groups.

5. Selected employment indicators, monthly data seasonally adjusted

[In thousands]

Selected categories	Annual average		2001											2002	
	2000	2001	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.
Characteristic															
Employed, 16 years and over	135,208	135,073	135,734	135,808	135,424	135,235	135,003	145,106	134,408	135,004	134,615	134,253	134,055	133,468	134,319
Men	72,293	72,080	72,348	72,271	72,272	72,131	72,012	72,093	71,705	72,177	71,871	71,570	71,577	71,114	71,457
Women	62,915	62,992	63,386	63,537	63,152	63,104	62,991	63,013	62,703	62,827	62,744	62,683	62,478	62,354	62,862
Married men, spouse present	43,368	43,243	43,372	43,385	43,459	43,633	43,357	43,264	43,143	43,099	42,983	42,861	42,772	42,823	43,275
Married women, spouse present	33,708	33,613	33,959	34,007	33,699	33,692	33,466	33,571	33,685	33,604	33,227	33,330	33,209	33,174	33,703
Women who maintain families	8,387	8,364	8,380	8,144	2,179	8,335	2,513	1,558	8,328	8,274	8,256	8,331	8,458	8,396	8,417
Class of worker															
Agriculture:															
Wage and salary workers	2,034	1,884	1,843	1,909	1,899	1,957	1,803	1,798	1,852	1,882	1,898	1,865	1,879	1,917	1,930
Self-employed workers	1,233	1,233	1,281	1,224	1,220	1,208	1,193	'152	1,239	1,278	1,290	1,276	1,313	1,311	1,293
Unpaid family workers	38	27	29	34	44	34	32	23	29	24	26	12	27	49	21
Nonagricultural industries:															
Wage and salary workers	123,128	123,235	123,916	123,767	123,406	123,530	123,069	123,204	122,685	123,186	122,710	122,507	122,196	122,145	122,770
Government	19,053	19,127	19,073	19,089	18,928	19,068	18,934	18,999	19,150	19,290	19,223	19,172	19,183	19,047	19,286
Private industries	104,076	104,108	104,843	104,678	104,478	10,442	104,135	104,205	103,535	103,896	103,487	103,335	103,013	103,098	103,485
Private households	890	803	833	858	809	795	760	790	814	804	867	790	736	725	709
Other	103,186	103,305	104,010	103,820	103,669	103,667	103,375	103,415	102,721	103,092	102,620	102,545	102,277	102,373	102,775
Self-employed workers	8,674	8,594	8,608	8,749	8,597	8,540	8,720	8,568	8,503	8,556	8,505	8,507	8,524	8,213	8,257
Unpaid family workers	101	101	130	128	99	111	102	98	111	101	95	77	92	97	86
Persons at work part time[1]															
All industries:															
Part time for economic reasons	3,190	3,672	3,277	3,221	3,277	3,388	3,649	3,571	3,389	4,148	4,329	4,206	4,267	3,973	4,228
Slack work or business conditions	1,927	2,355	2,049	1,965	2,188	2,205	2,276	2,174	2,115	2,796	2,983	2,796	2,809	2,549	2,755
Could only find part-time work	944	1,007	925	916	895	921	1,008	1,011	952	1,064	1,108	1,121	1,161	1,089	1,120
Part time for noneconomic reasons	18,722	18,707	18,974	18,711	18,698	18,634	18,482	18,812	19,011	18,798	18,644	18,587	18,540	18,201	18,395
Nonagricultural industries:															
Part time for economic reasons	3,045	3,529	3,137	3,064	3,120	3,231	3,556	3,425	32,346	4,015	4,222	4,017	4,119	3,781	3,998
Slack work or business conditions	1,835	2,266	1,970	1,869	2,011	2,101	2,215	2,111	2,025	2,704	2,898	2,679	2,717	2,448	2,615
Could only find part-time work	924	989	904	891	883	899	990	993	927	1,045	1,082	1,096	1,138	1,068	1,089
Part time for noneconomic reasons	18,165	18,177	18,560	18,162	18,166	18,097	18,066	18,283	18,485	18,232	18,065	18,007	17,960	17,717	17,886

[1] Excludes persons "with a job but not at work" during the survey period for such reasons as vacation, illness, or industrial disputes.

6. Selected unemployment indicators, monthly data seasonally adjusted

[Unemployment rates]

Selected categories	Annual average		2001											2002	
	2000	2001	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.
Characteristic															
Total, 16 years and over	4.0	4.8	4.2	4.3	4.5	4.4	4.6	4.6	4.9	5.0	5.4	5.6	5.8	5.6	5.5
Both sexes, 16 to 19 years	13.1	14.7	13.5	13.8	14.2	13.6	14.4	14.8	15.8	14.9	15.4	15.7	16.2	16.1	16.6
Men, 20 years and over	3.3	4.2	3.5	3.8	3.9	3.9	4.1	4.0	4.4	4.3	4.8	5.2	5.2	5.2	5.0
Women, 20 years and over	3.6	4.1	3.6	3.6	3.8	3.8	3.9	4.0	4.2	4.4	4.8	4.9	5.2	4.8	5.0
White, total	3.5	4.2	3.7	3.7	3.9	3.9	4.0	4.1	4.3	4.3	4.7	5.0	5.1	5.0	4.9
Both sexes, 16 to 19 years	11.4	12.7	11.2	11.7	11.9	12.0	12.7	13.2	13.8	12.7	23.1	13.5	13.7	14.2	14.0
Men, 16 to 19 years	12.3	13.8	12.7	12.3	12.9	13.3	14.3	13.8	15.1	13.6	14.7	15.8	14.6	13.7	15.4
Women, 16 to 19 years	10.4	11.4	9.6	11.0	10.9	10.7	11.0	12.6	12.4	11.7	11.5	11.1	12.8	14.6	12.6
Men, 20 years and over	2.8	3.7	3.1	3.3	3.4	3.4	3.6	3.5	3.8	3.8	4.4	4.7	4.6	4.7	4.4
Women, 20 years and over	3.1	3.6	3.3	3.1	3.4	3.4	3.4	3.5	3.6	3.8	4.1	4.2	4.5	4.2	4.4
Black, total	7.6	8.7	7.5	8.4	8.2	8.0	8.4	8.1	9.0	8.8	9.6	9.9	10.2	9.8	9.6
Both sexes, 16 to 19 years	24.7	29.0	28.1	28.3	30.5	25.7	28.0	26.6	30.1	28.5	30.2	32.1	33.4	30.7	27.9
Men, 16 to 19 years	26.4	30.5	31.1	28.7	33.5	30/0	6.0	28.1	31.4	30.8	31.2	31.6	32.0	32.1	30.0
Women, 16 to 19 years	23.0	27.5	25.1	28.0	27.7	21.5	25.7	25.2	28.7	26.1	29.1	32.6	34.8	29.0	25.6
Men, 20 years and over	7.0	8.0	6.7	8.2	8.1	7.6	7.8	7.9	8.8	7.8	8.2	8.7	9.1	8.9	8.7
Women, 20 years and over	6.3	7.0	5.9	6.3	5.9	6.4	6.7	6.2	7.0	7.7	8.5	8.4	8.7	8.4	8.5
Hispanic origin, total	5.7	6.6	6.2	6.2	6.3	6.2	6.6	6.2	6.4	6.5	7.1	7.4	7.9	8.1	7.1
Married men, spouse present	2.0	2.7	2.3	2.4	2.5	2.6	2.6	2.7	2.8	2.8	3.1	3.3	3.4	3.5	3.4
Married women, spouse present	2.7	3.1	2.6	2.7	2.8	2.9	3.0	2.9	3.1	3.3	3.6	3.6	3.7	3.4	3.8
Women who maintain families	5.9	6.6	6.0	6.1	6.3	6.2	6.3	6.3	6.8	7.1	6.8	8.0	8.0	8.9	8.0
Full-time workers	3.9	4.7	4.0	4.1	4.3	4.3	4.5	4.5	4.8	5.0	5.4	5.6	5.8	5.7	5.7
Part-time workers	4.8	5.1	4.8	4.9	5.3	4.8	5.2	5.1	5.4	4.6	5.5	5.6	5.6	5.2	4.8
Industry															
Nonagricultural wage and salary workers	4.1	5.1	4.4	4.5	4.6	4.6	4.8	4.8	5.2	5.2	5.8	6.0	6.2	5.9	6.0
Mining	3.9	4.7	4.5	4.0	4.8	4.9	5.9	3.9	4.7	5.0	5.8	5.3	6.1	5.9	4.5
Construction	6.4	7.3	6.8	6.4	6.9	6.7	6.9	7.1	7.6	7.8	8.3	8.9	8.9	9.4	7.9
Manufacturing	3.6	5.2	4.5	4.8	4.6	4.8	5.0	5.2	5.7	5.6	6.0	6.4	6.8	6.6	6.7
Durable goods	3.4	5.3	4.1	4.7	4.4	4.8	5.0	5.0	5.8	5.8	6.5	6.9	7.2	7.0	7.5
Nondurable goods	4.0	5.1	4.9	4.9	4.9	4.8	4.9	5.5	5.4	5.4	5.3	5.5	6.1	5.9	5.5
Transportation and public utilities	3.1	4.1	3.0	3.2	4.0	3.6	4.1	3.4	3.6	3.9	6.0	6.1	6.1	6.2	5.8
Wholesale and retail trade	5.0	5.6	5.1	5.3	5.2	5.2	5.4	5.3	5.6	5.9	6.1	6.4	7.1	6.3	6.5
Finance, insurance, and real estate	2.3	2.8	2.4	2.5	2.6	2.4	2.6	3.1	2.7	2.8	2.8	3.6	3.0	2.2	2.8
Services	3.8	4.6	4.1	4.1	4.1	4.2	4.4	4.4	4.9	4.8	5.5	5.4	5.5	5.4	5.5
Government workers	2.1	2.2	1.6	2.1	2.2	2.0	2.1	2.1	2.1	2.2	2.3	2.4	2.4	2.3	2.7
Agricultural wage and salary workers	7.5	9.7	9.2	11.1	9.4	8.4	9.5	10.5	10.0	7.6	9.0	9.3	9.6	10.3	9.5
Educational attainment[1]															
Less than a high school diploma	6.4	7.3	7.4	6.8	6.7	6.7	6.9	6.8	7.3	7.7	7.8	8.1	8.8	8.1	8.3
High school graduates, no college	3.5	4.2	3.7	3.8	3.8	3.9	3.9	4.1	4.3	4.3	4.6	5.0	4.9	5.2	5.3
Some college, less than a bachelor's degree	2.7	3.3	2.7	2.7	2.9	3.0	3.1	3.1	3.3	3.5	3.9	4.2	4.3	4.2	4.3
College graduates	1.7	2.3	1.6	1.9	2.2	2.1	2.1	22.2	2.2	2.5	2.7	2.9	3.1	2.9	2.9

[1] Data refer to persons 25 years and over.

7. Duration of unemployment, monthly data seasonally adjusted

[Numbers in thousands]

Weeks of unemployment	Annual average		2001											2002	
	2000	2001	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.
Less than 5 weeks	2,543	2,833	2,749	2,698	2,822	2,714	2,809	2,647	2,955	2,807	3,084	3,090	3,024	2,978	2,828
5 to 14 weeks	1,803	2,163	1,737	1,967	1,976	2,021	2,098	2,170	2,152	2,366	2,522	2,573	2,724	2,586	2,515
15 weeks and over	1,309	1,746	1,466	1,510	1,507	1,503	1,571	1,630	1,798	1,907	2,042	2,317	2,410	2,546	2,561
15 to 26 weeks	665	949	778	814	781	862	843	948	980	1,084	1,136	1,207	1,295	1,418	1,383
27 weeks and over	644	787	688	696	726	641	728	682	818	823	906	1,110	1,115	1,127	1,178
Mean duration, in weeks	12.6	13.2	12.8	12.8	12.6	12.4	12.9	12.7	13.2	13.3	13.0	14.4	14.5	14.6	15.0
Median duration, in weeks	5.9	6.8	6.0	6.4	6.0	6.4	6.3	6.7	6.6	7.3	7.4	7.6	8.2	8.8	8.1

8. Unemployed persons by reason for unemployment, monthly data seasonally adjusted

[Numbers in thousands]

Reason for unemployment	Annual average		2001											2002	
	2000	2001	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.
Job losers[1]	2,492	3,428	2,856	2,995	3,020	3,132	3,249	3,294	3,438	3,595	4,297	4,501	4,492	4,354	4,326
On temporary layoff	842	1,044	950	988	1,023	1,055	990	1,020	1,071	1,114	1,288	1,157	1,107	1,124	1,106
Not on temporary layoff	1,650	2,379	1,906	2,007	1,997	2,077	2,259	2,274	2,367	2,481	3,009	3,344	3,385	3,231	3,220
Job leavers	775	832	815	803	776	818	807	791	877	819	880	848	908	879	877
Reentrants	1,957	2,029	1,900	1,908	1,991	1,827	1,921	1,948	2,162	2,102	2,113	2,197	2,361	2,191	2,268
New entrants	431	453	387	410	456	467	470	442	488	466	466	497	495	479	485
Percent of unemployed															
Job losers[1]	44.1	50.8	47.9	49.0	48.4	50.2	50.4	50.9	49.4	51.5	55.4	56.0	54.4	55.1	54.4
On temporary layoff	14.9	15.6	15.9	16.2	16.4	16.9	15.4	15.8	15.4	16.0	16.6	14.4	13.4	14.2	13.9
Not on temporary layoff	29.2	35.3	32.0	32.8	32.0	33.3	35.0	35.1	34.0	35.5	38.8	41.6	41.0	40.9	40.5
Job leavers	13.7	12.3	13.7	13.1	12.4	13.1	12.5	12.2	12.6	11.7	11.3	10.5	11.0	11.1	11.0
Reentrants	34.6	30.1	31.9	31.2	31.9	29.3	29.8	30.1	31.0	30.1	27.2	27.3	28.6	27.7	28.5
New entrants	7.6	6.7	6.5	6.7	7.3	7.5	7.3	6.8	7.0	6.7	6.0	6.2	6.0	6.1	6.1
Percent of civilian labor force															
Job losers[1]	1.8	2.4	2.0	2.1	2.1	2.2	2.3	2.3	2.4	2.5	3.0	3.2	3.2	3.1	3.0
Job leavers	.6	.6	.6	.6	.5	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6
Reentrants	1.4	1.4	1.3	1.3	1.4	1.3	1.4	1.4	1.5	1.5	1.5	1.5	1.7	1.5	1.6
New entrants	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3

[1] Includes persons who completed temporary jobs.

9. Unemployment rates by sex and age, monthly data seasonally adjusted

[Civilian workers]

Sex and age	Annual average		2001											2002	
	2000	2001	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.
Total, 16 years and over	4.0	4.8	4.2	4.3	4.5	4.4	4.6	4.6	4.9	5.0	5.4	5.6	5.8	5.6	5.5
16 to 24 years	9.3	10.6	9.5	9.9	10.3	10.0	10.4	10.2	11.3	10.8	11.5	11.7	11.9	11.9	11.6
16 to 19 years	13.1	14.7	13.5	13.8	14.2	13.8	14.4	14.8	15.8	14.9	15.4	15.7	16.2	16.1	15.6
16 to 17 years	15.4	17.1	16.9	5.9	16.7	15.8	16.5	19.0	18.6	16.6	17.4	17.5	18.8	17.0	16.5
18 to 19 years	11.5	13.2	11.0	12.2	12.6	12.5	13.0	12.4	14.4	13.9	14.2	14.8	14.8	15.2	14.7
20 to 24 years	7.1	8.3	7.3	7.7	8.2	7.9	8.2	7.7	8.9	8.6	9.3	9.5	9.6	9.7	9.5
25 years and over	3.0	3.7	3.2	3.2	3.4	3.4	3.5	3.5	3.8	3.8	4.2	4.4	4.5	4.4	4.5
25 to 54 years	3.1	3.8	3.2	3.3	3.4	3.5	3.6	3.7	3.9	3.9	4.4	4.6	4.7	4.7	4.6
55 years and over	2.6	3.0	2.8	2.7	2.7	2.6	2.8	2.9	3.1	3.2	3.4	3.5	4.0	3.5	3.8
Men, 16 years and over	3.9	4.8	4.2	4.4	4.6	4.5	4.7	4.7	5.1	5.0	5.5	5.9	5.8	5.8	5.6
16 to 24 years	9.7	11.4	10.6	10.9	10.9	11.0	11.6	10.7	12.3	1.5	12.4	13.0	12.8	12.5	12.4
16 to 19 years	14.0	15.9	15.0	14.3	15.1	15.4	15.8	15.6	17.4	16.0	17.2	17.7	17.2	16.3	16.8
16 to 17 years	16.8	18.8	18.4	16.2	18.7	17.9	18.5	19.1	21.9	18.7	20.3	20.4	20.0	17.6	19.6
18 to 19 years	12.2	14.1	12.9	12.7	12.9	13.9	14.2	13.4	15.0	14.5	15.1	16.2	15.6	15.1	15.4
20 to 24 years	7.3	8.9	8.1	8.9	8.6	8.7	9.3	8.1	9.5	9.1	9.8	10.5	10.5	10.6	10.2
25 years and over	2.8	3.6	3.0	3.2	3.4	3.3	3.4	3.6	3.8	3.7	4.2	4.5	4.5	4.5	4.4
25 to 54 years	2.9	3.7	3.1	3.2	3.5	3.4	3.5	3.6	3.9	3.8	4.3	4.6	4.5	4.7	4.5
55 years and over	2.7	3.3	2.8	3.0	2.9	2.9	3.0	3.1	3.3	3.3	3.7	4.1	4.2	3.8	4.1
Women, 16 years and over	4.1	4.7	4.1	4.2	4.3	4.3	4.4	4.6	4.8	5.0	5.3	5.4	5.8	5.4	5.5
16 to 24 years	8.9	9.7	8.3	8.9	9.7	8.8	9.2	9.7	10.3	10.1	10.5	10.3	11.0	11.3	10.7
16 to 19 years	12.1	13.4	11.9	13.3	13.2	12.1	13.0	14.0	14.1	13.6	13.6	13.7	15.1	15.8	14.3
16 to 17 years	14.0	15.3	15.3	15.6	14.5	13.8	14.4	18.8	15.4	14.3	14.5	14.5	17.6	16.4	13.6
18 to 19 years	10.8	12.2	8.8	11.6	12.2	11.0	11.8	11.3	13.7	13.3	13.3	13.3	14.0	15.2	13.9
20 to 24 years	7.0	7.5	6.3	6.4	7.8	7.0	7.0	7.3	8.2	8.1	8.7	8.3	8.7	8.7	8.7
25 years and over	3.2	3.7	3.4	3.2	3.3	3.4	3.5	3.5	3.8	4.0	4.2	4.4	4.6	4.3	4.6
25 to 54 years	3.3	3.8	3.4	3.4	3.4	3.6	3.7	3.7	3.9	4.0	4.4	4.7	4.8	4.6	4.7
55 years and over	2.6	2.7	2.7	2.3	2.5	2.4	2.6	2.6	2.8	3.2	3.2	2.8	3.7	3.0	3.5

10. Unemployment rates by State, seasonally adjusted

State	Jan. 2001	Dec. 2001[P]	Jan. 2002[P]	State	Jan. 2001	Dec. 2001[P]	Jan. 2002[P]
Alabama	4.9	6.0	5.3	Missouri	4.5	4.9	4.7
Alaska	6.6	6.0	5.9	Montana	4.6	4.7	4.2
Arizona	3.8	5.8	5.8	Nebraska	2.9	3.4	3.4
Arkansas	4.8	5.5	4.8	Nevada	4.4	6.9	6.3
California	4.7	6.1	6.4	New Hampshire	2.9	3.9	4.0
Colorado	2.7	5.1	5.6	New Jersey	3.6	4.8	4.9
Connecticut	2.5	4.0	3.5	New Mexico	4.5	5.1	6.1
Delaware	4.2	3.4	3.8	New York	4.3	5.7	5.8
District of Columbia	6.4	6.4	6.7	North Carolina	4.5	6.5	6.4
Florida	3.9	6.0	5.3	North Dakota	2.8	3.1	3.0
Georgia	3.7	4.5	4.6	Ohio	4.0	4.8	5.1
Hawaii	4.1	5.6	4.7	Oklahoma	2.9	4.7	4.2
Idaho	4.5	5.5	5.5	Oregon	4.9	7.8	8.1
Illinois	4.9	6.0	5.9	Pennsylvania	4.4	5.1	5.6
Indiana	3.9	5.1	5.0	Rhode Island	4.2	5.0	5.0
Iowa	2.9	3.7	3.3	South Carolina	4.5	6.1	5.4
Kansas	4.2	4.4	4.4	South Dakota	2.6	4.0	3.2
Kentucky	4.7	6.2	5.4	Tennessee	4.1	5.0	5.4
Louisiana	6.0	6.7	5.9	Texas	4.1	5.7	5.7
Maine	3.3	4.3	3.8	Utah	3.6	5.9	5.2
Maryland	3.8	4.4	4.7	Vermont	3.1	4.3	3.6
Massachusetts	2.7	4.4	4.4	Virginia	2.4	4.5	4.2
Michigan	4.6	6.2	6.5	Washington	5.5	7.4	7.6
Minnesota	3.4	4.0	4.1	West Virginia	5.2	4.6	5.2
Mississippi	4.9	6.5	6.5	Wisconsin	3.9	4.9	5.2
				Wyoming	3.6	4.2	3.9

[P] = preliminary

Dash indicates data not available.

11. Employment of workers on nonfarm payrolls by State, seasonally adjusted

[In thousands]

State	Jan. 2001	Dec. 2001	Jan. 2002[P]	State	Jan. 2001	Dec. 2001	Jan. 2002[P]
Alabama	1,924.4	1,903.7	1,900.5	Missouri	2,750.3	2,695.2	2,706.9
Alaska	285.8	291.4	290.5	Montana	391.2	390.3	395.1
Arizona	2,267.8	2,247.1	2,249.2	Nebraska	908.6	908.8	908.5
Arkansas	1,160.1	1,147.5	1,154.1	Nevada	1,050.5	1,049.6	1,055.0
California	14,729.4	14,656.2	14,671.7	New Hampshire	633.1	624.6	628.4
Colorado	2,245.8	2,205.0	2,203.0	New Jersey	4,025.4	4,023.3	4,025.0
Connecticut	1,697.6	1,672.1	1,676.8	New Mexico	752.7	758.1	760.9
Delaware	420.0	418.5	414.6	New York	8,694.2	8,568.5	8,559.0
District of Columbia	655.0	649.6	649.4	North Carolina	3,947.5	3,881.6	3,885.3
Florida	7,167.1	7,166.3	7,176.9	North Dakota	328.9	331.0	331.2
Georgia	3,989.8	3,899.2	3,876.5	Ohio	5,611.2	5,534.5	5,547.7
Hawaii	552.9	545.5	548.1	Oklahoma	1,500.8	1,516.2	1,509.9
Idaho	566.4	568.9	567.8	Oregon	1,614.6	1,580.1	1,577.7
Illinois	6,045.6	5,958.0	5,966.7	Pennsylvania	5,723.6	5,663.1	5,655.5
Indiana	2,959.9	2,911.0	2,915.2	Rhode Island	478.7	477.9	480.1
Iowa	1,477.8	1,462.8	1,463.9	South Carolina	1,844.8	1,827.8	1,829.4
Kansas	1,354.8	1,363.1	1,359.9	South Dakota	378.6	376.3	376.0
Kentucky	1,830.7	1,818.5	1,828.1	Tennessee	2,734.0	2,706.9	2,720.1
Louisiana	1,923.4	1,936.9	1,933.2	Texas	9,535.3	9,437.0	9,452.5
Maine	609.4	608.1	609.4	Utah	1,086.9	1,073.7	1,086.0
Maryland	2,469.0	2,469.9	2,459.2	Vermont	301.6	297.4	297.1
Massachusetts	3,368.1	3,307.1	3,306.6	Virginia	3,550.6	3,501.9	3,508.3
Michigan	4,614.2	4,555.5	4,557.7	Washington	1,723.5	2,655.6	2,665.4
Minnesota	2,695.4	2,648.4	2,659.6	West Virginia	737.9	734.6	733.4
Mississippi	1,141.9	1,125.5	1,130.4	Wisconsin	2,836.5	2,817.5	2,814.5
				Wyoming	243.1	245.9	246.5

[P] = preliminary. Dash indicates data not available.

NOTE: Some data in this table may differ from data published elsewhere because of the continual updating of the data base.

12. Employment of workers on nonfarm payrolls by industry, monthly data seasonally adjusted

[In thousands]

Industry	Annual average		2001											2002	
	2000	2001	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.[P]	Feb.[P]
TOTAL	131,739	132,212	132,595	132,654	132,489	132,530	132,431	132,449	132,395	132,230	131,782	131,427	131,321	129,233	129,787
PRIVATE SECTOR	111,079	111,339	111,915	111,943	111,742	111,760	111,603	111,517	111,390	111,249	110,784	110,421	110,260	108,249	108,372
GOODS-PRODUCING	25,709	25,121	25,627	25,602	25,421	25,324	25,186	25,122	24,963	24,888	24,746	24,577	24,453	23,747	23,666
Mining	543	563	555	557	560	564	565	567	569	569	569	567	564	551	544
Metal mining	41	36	39	38	37	37	35	34	35	35	35	34	33	31	30
Oil and gas extraction	311	337	328	331	335	339	340	341	342	342	340	339	336	334	329
Nonmetallic minerals, except fuels	114	113	113	113	113	112	112	113	112	112	113	113	113	103	104
Construction	6,698	5,861	6,880	6,929	6,852	6,881	6,864	6,867	6,861	6,871	6,852	6,851	6,850	6,356	6,334
General building contractors	1,528	1,554	1,555	1,552	1,548	1,556	1,551	1,554	1,557	1,562	1,560	1,561	1,559	1,482	1,472
Heavy construction, except building	901	629	930	938	915	923	925	935	932	932	933	942	944	804	804
Special trades contractors	4,269	4,378	4,395	4,439	4,389	4,402	4,388	4,378	4,372	4,377	4,359	4,348	4,348	4,071	4,057
Manufacturing	18,469	17,698	18,192	18,116	18,009	17,879	17,757	17,688	17,533	17,448	17,325	17,159	17,039	16,840	16,788
Production workers	12,628	11,922	12,323	12,254	12,166	12,066	11,956	11,900	11,782	11,706	11,626	11,500	11,405	11,252	11,222
Durable goods	11,138	10,638	10,997	10,941	10,870	10,778	10,692	10,624	10,523	10,460	10,363	10,240	10,158	10,019	9,988
Production workers	7,591	7,122	7,415	7,358	7,308	7,235	7,157	7,102	7,022	6,970	6,897	6,805	6,744	6,641	6,626
Lumber and wood products	832	795	799	799	800	797	798	797	793	794	789	784	780	768	768
Furniture and fixtures	558	527	549	548	543	540	532	531	519	513	505	499	499	495	497
Stone, clay, and glass products	579	571	578	578	577	574	572	569	568	567	566	562	559	539	537
Primary metal industries	698	651	679	671	667	660	654	648	643	638	633	619	613	601	600
Fabricated metal products	1,537	1,479	1,514	1,509	1,503	1,488	1,478	1,478	1,468	1,464	1,454	1,435	1,428	1,415	1,414
Industrial machinery and equipment	2,120	2,014	2,105	2,084	2,072	2,054	2,031	2,007	1,980	1,965	1,943	1,917	1,892	1,875	1,862
Computer and office equipment	361	355	370	369	367	366	357	353	348	344	342	339	335	330	327
Electronic and other electrical equipment	1,719	1,612	1,726	1,715	1,684	1,656	1,624	1,589	1,565	1,551	1,529	1,499	1,474	1,458	1,442
Electronic components and accessories	682	647	711	702	686	670	650	634	618	613	601	591	583	574	565
Transportation equipment	1,849	1,747	1,786	1,775	1,768	1,757	1,749	1,752	1,750	1,735	1,714	1,706	1,696	1,658	1,663
Motor vehicles and equipment	1,013	933	967	956	950	939	931	936	931	919	903	903	901	877	891
Aircraft and parts	465	463	464	465	464	465	465	466	465	465	463	456	452	440	432
Instruments and related products	852	859	871	871	866	865	865	865	858	851	849	843	839	835	833
Miscellaneous manufacturing industries	394	385	390	391	390	387	389	388	379	382	381	376	378	374	374
Nondurable goods	7,331	7,059	7,195	7,175	7,139	7,101	7,065	7,064	7,010	6,988	6,962	6,919	6,881	6,821	6,800
Production workers	5,038	4,800	4,908	4,896	4,858	4,831	4,799	4,798	4,760	4,736	4,729	4,695	4,661	4,611	4,596
Food and kindred products	1,684	1,685	1,686	1,687	1,687	1,684	1,685	1,680	1,674	1,682	1,689	1,691	1,682	1,659	1,656
Tobacco products	34	33	31	32	32	33	33	33	35	33	33	33	32	34	34
Textile mill products	528	473	496	494	489	480	472	471	465	459	454	446	442	436	435
Apparel and other textile products	633	565	595	590	581	579	567	571	554	551	542	533	531	523	522
Paper and allied products	657	635	645	642	641	639	635	632	628	629	628	627	624	624	620
Printing and publishing	1,547	1,492	1,529	1,524	1,512	1,502	1,495	1,489	1,483	1,473	1,465	1,452	1,444	1,431	1,421
Chemicals and allied products	1,038	1,033	1,039	1,039	1,036	1,033	1,033	1,039	1,035	1,031	1,027	1,024	1,021	1,017	1,018
Petroleum and coal products	127	127	127	126	128	127	128	128	127	128	128	127	127	123	123
Rubber and miscellaneous plastics products	1,011	954	979	973	967	959	953	957	947	941	935	927	920	917	915
Leather and leather products	71	64	68	68	66	65	64	64	62	61	60	59	58	58	58
SERVICE-PRODUCING	106,050	107,091	106,968	107,052	107,068	107,206	107,245	107,327	107,432	107,342	107,036	106,850	106,868	105,486	106,121
Transportation and public utilities	7,019	7,070	7,123	7,127	7,119	7,130	7,118	7,108	7,082	7,070	7,016	6,952	6,915	6,838	6,828
Transportation	4,529	4,531	4,591	4,591	4,576	4,584	4,571	4,561	4,539	4,528	4,472	4,414	4,387	4,327	4,321
Railroad transportation	236	227	231	230	230	230	227	226	226	226	225	224	227	225	225
Local and interurban passenger transit	476	481	480	480	477	483	483	485	486	482	479	480	485	490	494
Trucking and warehousing	1,856	1,854	1,870	1,872	1,864	1,867	1,867	1,863	1,844	1,838	1,832	1,830	1,832	1,796	1,789
Water transportation	196	203	200	201	202	203	201	203	203	205	206	204	206	193	194
Transportation by air	1,281	1,288	1,318	1,316	1,313	1,315	1,310	1,304	1,303	1,300	1,264	1,221	1,189	1,182	1,176
Pipelines, except natural gas	14	14	14	13	14	14	14	14	14	14	14	14	14	14	14
Transportation services	471	464	478	479	476	472	469	466	463	463	452	441	434	428	428
Communications and public utilities	2,490	2,540	2,532	2,536	2,543	2,546	2,547	2,547	2,543	2,542	2,544	2,538	2,528	2,511	2,507
Communications	1,639	1,692	1,685	1,690	1,696	1,699	1,700	1,700	1,695	1,695	1,695	1,689	1,683	1,666	1,665
Electric, gas, and sanitary services	851	847	847	846	847	847	847	847	848	847	849	849	845	845	842
Wholesale trade	7,024	7,014	7,064	7,066	7,053	7,038	7,022	7,017	7,010	6,988	6,971	6,941	6,938	6,881	6,872
Retail trade	23,307	23,488	23,472	23,457	23,530	23,546	23,561	23,606	23,583	23,536	23,422	23,424	23,365	23,050	22,918
Building materials and garden supplies	1,016	1,010	1,007	1,006	999	1,006	1,014	1,008	1,014	1,013	1,012	1,010	1,013	970	971
General merchandise stores	2,837	2,792	2,807	2,797	2,804	2,821	2,818	2,810	2,800	2,793	2,784	2,778	2,755	2,751	2,684
Department stores	2,491	2,447	2,462	2,451	2,459	2,473	2,471	2,458	2,449	2,450	2,422	2,420	2,410	2,402	2,343

See footnotes at end of table.

12. Continued—Employment of workers on nonfarm payrolls by industry, monthly data seasonally adjusted

[In thousands]

Industry	Annual average													2002	
	2000	2001	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.[P]
Food stores	3,521	3,542	3,548	3,550	3,562	3,553	3,544	3,536	3,531	3,538	3,542	3,539	3,535	3,501	3,570
Automotive dealers and service stations	2,412	2,429	2,424	2,420	2,421	2,428	2,431	2,435	2,441	2,435	2,429	2,430	2,428	2,405	2,400
New and used car dealers	1,114	1,130	1,124	1,124	1,122	1,126	1,128	1,131	1,133	1,133	1,134	1,137	1,141	1,137	1,140
Apparel and accessory stores	1,193	1,219	1,227	1,228	1,226	1,231	1,227	1,219	1,224	1,224	1,208	1,203	1,192	1,225	1,177
Furniture and home furnishings stores	1,134	1,140	1,146	1,147	1,140	1,136	1,136	1,137	1,137	1,138	1,136	1,136	1,143	1,146	1,132
Eating and drinking places	8,114	8,215	8,171	8,158	8,213	8,216	8,241	8,310	8,280	8,242	8,187	8,198	8,209	7,895	7,964
Miscellaneous retail establishments	3,080	3,142	3,142	3,151	3,165	3,155	3,150	3,151	3,156	3,153	3,144	3,130	3,100	3,157	3,120
Finance, insurance, and real estate	7,560	7,623	7,609	7,618	7,626	7,644	7,631	7,618	7,623	7,633	7,634	7,638	7,632	7,584	7,572
Finance	3,710	3,759	3,748	3,755	3,761	3,770	3,767	3,755	3,758	3,758	3,761	3,772	3,774	3,767	3,760
Depository institutions	2,029	2,036	2,025	2,028	2,032	2,037	2,041	2,039	2,037	2,039	2,041	2,045	2,044	2,044	2,038
Commercial banks	1,430	1,423	1,417	1,418	1,421	1,426	1,428	1,426	1,423	1,423	1,427	1,428	1,427	1,427	1,423
Savings institutions	253	256	254	254	255	255	256	255	255	256	257	259	260	261	261
Nondepository institutions	681	701	683	686	691	697	699	703	709	706	712	717	728	728	730
Security and commodity brokers	748	763	781	781	780	776	766	755	755	755	750	751	741	740	735
Holding and other investment offices	251	259	259	260	258	260	261	258	257	258	258	259	258	257	257
Insurance	2,346	2,355	2,351	2,353	2,356	2,358	2,356	2,357	2,357	2,362	2,361	2,356	2,352	2,346	2,341
Insurance carriers	1,589	1,596	1,592	1,593	1,596	1,598	1,598	1,599	1,598	1,601	1,602	1,597	1,594	1,591	1,586
Insurance agents, brokers, and service	757	759	759	760	760	760	758	758	759	761	759	759	758	755	756
Real estate	1,504	1,510	1,510	1,510	1,509	1,516	1,508	1,506	1,508	1,513	1,512	1,510	1,506	1,471	1,471
Services[1]	40,460	41,023	41,020	41,073	40,993	41,078	41,085	41,046	41,129	41,134	40,995	40,889	40,957	40,149	40,516
Agricultural services	832	801	821	828	824	834	833	834	837	838	841	840	845	721	719
Hotels and other lodging places	1,914	1,912	1,957	1,960	1,944	1,935	1,920	1,922	1,912	1,913	1,862	1,852	1,845	1,747	1,762
Personal services	1,251	1,275	1,261	1,265	1,267	1,277	1,279	1,281	1,284	1,284	1,281	1,271	1,294	1,345	1,362
Business services	9,858	9,627	9,851	9,822	9,729	9,702	9,666	9,592	9,588	9,581	9,467	9,356	9,346	9,116	9,114
Services to buildings	994	1,001	1,007	1,007	1,009	1,013	1,008	998	997	997	995	996	992	971	967
Personnel supply services	3,887	3,531	3,731	3,694	3,600	3,590	3,556	3,517	3,521	3,488	3,378	3,282	3,252	3,079	3,085
Help supply services	3,487	3,142	3,339	3,293	3,202	3,198	3,161	3,127	3,113	3,106	3,005	2,913	2,894	2,739	2,749
Computer and data processing services	2,095	2,193	2,186	2,195	2,199	2,200	2,205	2,202	2,194	2,200	2,201	2,189	2,189	2,185	2,188
Auto repair services and parking	1,248	1,302	1,291	1,298	1,300	1,309	1,303	1,312	1,307	1,306	1,298	1,305	1,304	1,297	1,303
Miscellaneous repair services	366	362	365	364	364	363	361	360	362	363	362	360	359	354	356
Motion pictures	594	592	600	605	601	587	602	595	589	586	582	584	580	582	579
Amusement and recreation services	1,728	1,771	1,772	1,775	1,764	1,787	1,768	1,772	1,777	1,766	1,781	1,762	1,777	1,530	1,546
Health services	10,197	10,497	10,236	10,259	10,280	10,296	10,329	10,354	10,384	10,408	10,431	10,458	10,483	10,481	10,506
Offices and clinics of medical doctors	1,924	1,979	1,958	1,962	1,967	1,973	1,981	1,983	1,990	1,992	1,993	2,000	2,002	2,004	2,011
Nursing and personal care facilities	1,795	1,822	1,808	1,811	1,816	1,814	1,821	1,823	1,825	1,830	1,834	1,837	1,842	1,843	1,843
Hospitals	3,990	4,095	4,045	4,055	4,062	4,071	4,086	4,098	4,114	4,124	4,135	4,149	4,158	4,164	4,171
Home health care services	643	650	645	648	646	645	648	647	653	655	655	657	659	656	657
Legal services	1,010	1,026	1,020	1,022	1,021	1,027	1,027	1,026	1,028	1,030	1,030	1,030	1,031	1,025	1,024
Educational services	2,325	2,420	2,375	2,384	2,388	2,431	2,426	2,432	2,452	2,446	2,436	2,439	2,457	2,393	2,617
Social services	2,903	305'	2,997	3,009	3,023	3,039	3,056	3,048	3,076	3,085	3,096	3,100	33,105	3,103	3,124
Child day care services	712	749	734	739	743	745	756	760	765	756	757	755	757	763	769
Residential care	806	843	829	831	835	842	845	847	848	851	854	855	853	855	857
Museums and botanical and zoological gardens	106	110	110	110	109	110	111	111	111	112	112	110	110	101	101
Membership organizations	2,475	2,498	2,487	2,489	2,489	2,496	2,501	2,493	2,503	2,509	2,505	2,505	2,506	2,470	2,485
Engineering and management services	3,419	3,525	3,504	3,510	3,517	3,512	3,529	3,540	3,544	3,533	3,538	3,543	3,541	3,514	3,547
Engineering and architectural services	1,017	1,060	1,050	1,052	1,053	1,057	1,059	1,064	1,067	1,067	1,069	1,065	1,063	1,054	1,050
Management and public relations	1,090	1,123	1,123	1,125	1,124	1,121	1,124	1,119	1,123	1,122	1,124	1,127	1,125	1,119	1,123
Government	20,681	20,873	20,680	20,711	20,747	20,770	20,828	20,932	21,005	20,981	20,998	21,006	21,061	20,984	21,415
Federal	2,777	2,616	2,615	2,613	2,615	2,612	2,621	2,626	2,622	2,627	2,625	2,607	2,615	2,587	2,593
Federal, except Postal Service	1,917	1,767	1,756	1,754	1,756	1,754	1,772	1,772	1,774	1,776	1,779	1,777	1,775	1,757	1,765
State	4,785	4,880	4,825	4,836	4,847	4,854	4,881	4,909	4,913	4,931	4,919	4,916	4,928	4,842	5,032
Education	2,032	2,088	2,048	2,055	2,065	2,066	2,089	2,117	2,122	2,129	2,107	2,109	2,112	2,056	2,241
Other State government	2,753	2,792	2,777	2,781	2,782	2,788	2,792	2,792	2,791	2,802	2,812	2,907	2,816	2,785	2,791
Local	13,119	13,377	13,240	13,262	13,285	13,304	13,326	13,397	13,470	13,423	13,454	13,843	13,518	13,555	13,790
Education	7,440	7,567	7,479	7,492	7,495	7,512	7,515	7,575	7,650	7,595	7,607	7,630	7,642	7,808	8,023
Other local government	5,679	5,810	5,761	5,770	5,790	5,792	5,811	5,822	5,820	5,828	5,847	5,853	5,876	5,747	5,767

[1] Includes other industries not shown separately.

[P] = preliminary.

NOTE: See "Notes on the data" for a description of the most recent benchmark revision.

13. Average weekly hours of production or nonsupervisory workers on private nonfarm payrolls, by industry, monthly data seasonally adjusted

Industry	Annual average		2001											2002	
	2000	2001	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.[P]
PRIVATE SECTOR	34.5	34.2	34.3	34.3	34.2	34.2	34.2	34.2	34.0	34.1	34.0	34.1	34.1	33.6	33.9
GOODS-PRODUCING	41.0	40.3	40.3	40.5	40.6	40.5	40.4	40.5	40.3	40.2	40.0	40.0	40.1	39.9	39.8
MINING	43.1	43.4	43.2	43.8	44.0	43.9	43.3	43.3	43.4	43.5	43.1	43.2	43.1	42.3	42.7
MANUFACTURING	41.6	40.7	40.9	41.0	41.0	40.7	40.7	40.8	40.7	40.6	40.5	40.3	40.6	40.4	40.3
Overtime hours	4.6	3.9	3.9	4.1	3.9	3.9	3.9	4.0	4.1	3.9	3.8	3.7	3.8	3.7	3.7
Durable goods	42.1	41.0	41.1	41.3	41.3	41.0	40.9	41.2	41.1	40.9	40.7	40.4	40.9	40.8	40.7
Overtime hours	4.7	3.9	3.9	4.0	3.9	3.9	3.9	4.0	4.1	3.8	3.7	3.6	3.8	3.7	3.7
Lumber and wood products	41.0	40.3	40.1	40.3	40.1	40.6	40.4	41.1	40.9	41.1	40.6	40.5	40.7	39.7	39.8
Furniture and fixtures	40.0	36.9	39.1	39.1	39.3	38.6	38.4	39.7	39.7	38.8	38.3	38.4	38.9	39.8	39.8
Stone, clay, and glass products	43.1	43.6	42.8	43.7	43.2	43.9	44.0	44.0	43.9	44.0	43.9	43.8	43.6	43.2	43.2
Primary metal industries	44.9	43.6	43.2	43.4	44.3	43.5	43.9	44.1	43.7	43.7	43.2	42.6	43.9	43.6	43.3
Blast furnaces and basic steel products	46.0	44.5	44.4	44.4	45.4	44.6	45.1	44.7	44.6	45.5	44/0	43.3	43.8	43.9	43.7
Fabricated metal products	42.6	41.3	41.7	41.9	42.0	41.4	41.2	41.6	41.5	41.2	41.0	40.7	41.3	41.2	41.3
Industrial machinery and equipment	42.2	40.7	41.0	41.2	41.3	40.7	40.4	40.8	40.2	40.3	40.4	39.9	40.1	40.4	40.2
Electronic and other electrical equipment	41.1	39.4	40.3	40.1	39.8	39.1	39.3	38.9	39.1	39.1	39.0	38.8	39.3	38.5	38.5
Transportation equipment	43.4	41.9	42.0	42.0	42.4	42.4	41.9	42.2	42.8	41.5	41.3	41.3	41.8	42.3	42.0
Motor vehicles and equipment	44.4	42.7	42.0	42.3	43.3	43.6	43.0	43.0	44.6	42.3	41.9	42.2	43.1	43.5	43.3
Instruments and related products	41.3	40.6	41.1	41.0	41.0	41.0	40.8	40.8	40.4	41.1	40.7	40.3	40.5	40.4	40.3
Miscellaneous manufacturing	39.0	37.9	38.2	38.2	38.2	37.9	38.4	38.4	38.2	37.6	37.5	37.1	37.8	37.1	37.7
Nondurable goods	40.8	40.3	40.4	40.5	40.5	40.3	40.4	40.3	40.1	40.2	40.2	40.0	40.2	40.0	39.8
Overtime hours	4.4	4.0	4.0	4.1	3.9	4.0	3.9	4.0	4.1	4.1	4.1	3.9	4.0	3.8	3.8
Food and kindred products	41.7	41.1	41.1	41.2	41.3	41.1	41.2	40.9	41.1	41.0	41.1	40.8	40.9	40.7	40.0
Textile mill products	41.2	40.0	40.4	40.5	40.3	40.3	40.4	39.7	39.8	39.8	39.7	39.5	40.0	39.9	40.5
Apparel and other textile products	37.8	37.3	37.6	37.5	38.0	37.8	37.5	37.7	36.9	36.9	36.8	36.9	37.3	36.6	37.2
Paper and allied products	42.5	41.7	41.7	41.8	42.0	41.6	41.7	41.9	41.2	41.6	41.5	41.3	41.5	41.4	41.1
Printing and publishing	38.3	38.1	38.4	38.6	38.2	38.0	38.0	38.2	38.0	38.1	38.0	37.8	37.9	37.3	37.4
Chemicals and allied products	42.5	42.3	42.3	42.3	42.6	42.4	42.2	42.7	42.1	42.2	42.3	42.0	41.9	41.9	41.5
Rubber and miscellaneous plastics products	41.4	41.7	40.9	41.0	40.8	40.6	40.7	40.6	40.5	40.8	40.5	40.7	41.2	40.9	40.9
Leather and leather products	37.5	36.4	36.4	36.1	36.6	35.9	36.2	35.7	36.4	36.3	36.0	36.6	37.5	37.5	37.2
SERVICE-PRODUCING	32.8	32.7	32.8	32.8	32.7	32.7	32.8	32.6	32.6	32.6	32.6	32.6	32.7	32.2	32.5
TRANSPORTATION AND PUBLIC UTILITIES	38.6	38.1	38.5	38.3	38.1	38.1	38.1	37.8	37.8	37.6	37.8	38.8	38.0	37.4	37.4
WHOLESALE TRADE	38.5	38.2	38.1	38.3	38.2	38.2	38.3	38.2	38.3	38.3	38.1	38.2	38.3	37.9	38.1
RETAIL TRADE	28.9	28.8	28.9	28.8	28.8	28.8	28.7	28.6	28.6	28.7	28.7	28.8	28.9	28.0	28.6

[P] = preliminary.

NOTE: See "Notes on the data" for a description of the most recent benchmark revision.

14. Average hourly earnings of production or nonsupervisory workers on private nonfarm payrolls, by industry, seasonally adjusted

Industry	Annual average		2001											2002	
	2000	2001	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.[P]
PRIVATE SECTOR (in current dollars)	$13.75	$14.33	$14.11	$14.17	$14.21	$14.24	$14.31	$14.34	$14.40	$14.45	$14.47	$14.54	$14.59	$14.67	$14.68
Goods-producing	15.40	15.93	15.74	15.79	15.78	15.86	15.90	15.93	16.01	16.04	16.05	16.05	16.15	16.17	16.17
Mining	17.24	17.65	17.52	17.55	17.53	17.54	17.73	17.74	17.69	17.67	17.73	17.85	17.80	17.96	17.83
Construction	17.88	18.33	18.30	18.33	18.15	18.22	18.28	18.26	18.35	18.36	18.38	18.46	18.58	18.47	18.50
Manufacturing	14.38	14.84	14.63	14.66	14.72	14.78	14.81	14.86	14.93	14.96	14.97	15.05	15.10	15.16	15.16
Excluding overtime	13.62	14.15	13.94	13.96	14.04	14.09	14.13	14.18	14.24	14.28	14.31	14.38	14.41	14.49	14.49
Service-producing	13.24	13.85	13.62	13.68	13.73	13.76	13.84	13.87	13.93	13.98	14.01	14.07	14.13	14.24	14.27
Transportation and public utilities	16.22	16.89	16.64	16.68	16.74	16.76	16.91	16.88	16.95	17.02	17.09	17.23	17.23	17.39	17.44
Wholesale trade	15.20	15.80	15.60	15.68	15.74	15.70	15.86	15.84	15.81	15.95	15.89	15.91	16.04	16.07	16.16
Retail trade	9.46	9.82	9.69	9.72	9.74	9.79	9.83	9.84	9.87	9.87	9.91	9.98	9.99	10.05	10.03
Finance, insurance, and real estate	15.07	15.84	15.55	15.61	15.64	15.74	15.86	15.91	15.99	16.01	16.05	16.07	16.16	16.13	16.20
Services	13.91	14.61	14.35	14.40	14.48	14.49	14.54	14.61	14.71	14.76	14.81	14.87	14.94	15.07	15.10
PRIVATE SECTOR (in constant (1982) dollars)	7.86	8.00	7.92	7.95	7.94	7.93	7.95	8.00	8.03	8.02	8.06	8.11	8.16	8.21	8.19

[P] = preliminary. Dash indicates data not available.

NOTE: See "Notes on the data" for a description of the most recent benchmark revision.

15. Average hourly earnings of production or nonsupervisory workers on private nonfarm payrolls, by industry

Industry	Annual average		2001											2002	
	2000	2001	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.[P]
PRIVATE SECTOR	$13.75	$14.33	$14.16	$14.19	$14.27	$14.22	$14.22	$14.27	$14.28	$14.51	$14.50	$14.56	$14.64	$14.67	$14.68
MINING	17.24	17.65	17.61	17.57	17.60	17.49	17.59	17.67	17.53	17.67	17.70	17.79	17.90	17.96	17.83
CONSTRUCTION	17.88	18.33	18.16	18.30	18.07	18.17	18.21	18.32	18.43	18.50	18.55	18.51	18.65	18.47	18.50
MANUFACTURING	14.38	14.84	14.61	14.65	14.74	14.75	14.79	14.84	14.89	15.01	14.97	15.07	15.19	15.16	15.16
Durable goods	14.82	15.28	15.03	15.09	15.14	15.19	15.24	15.25	15.37	15.49	15.45	15.55	15.68	15.64	15.64
Lumber and wood products	11.93	12.25	12.08	12.08	12.13	12.16	12.19	12.32	12.37	12.45	12.34	12.41	12.37	12.39	12.32
Furniture and fixtures	11.73	12.21	12.03	12.04	12.07	12.09	12.15	12.24	12.29	12.35	12.39	12.40	12.56	12.59	12.58
Stone, clay, and glass products	14.53	15.03	14.68	14.79	14.96	15.03	15.13	15.12	15.17	15.22	15.20	15.16	15.23	15.29	15.26
Primary metal industries	16.42	16.96	16.58	16.63	16.90	16.82	16.96	17.11	17.06	17.27	17.12	17.31	17.26	17.26	17.30
Blast furnaces and basic steel products	19.82	20.43	20.05	20.00	20.37	20.26	20.39	20.48	20.63	20.91	20.55	20.75	20.61	20.62	20.75
Fabricated metal products	13.87	14.26	14.03	14.08	14.11	14.23	14.25	14.27	14.34	14.42	14.33	14.44	14.63	14.56	14.53
Industrial machinery and equipment	15.55	15.91	15.74	15.77	15.74	15.79	15.82	15.90	15.96	16.05	16.09	16.15	16.33	16.34	16.31
Electronic and other electrical equipment	13.80	14.53	14.16	14.26	14.39	14.38	14.51	14.59	14.72	14.84	14.78	14.87	15.01	14.88	14.88
Transportation equipment	18.45	19.01	18.68	18.76	18.77	18.83	18.90	18.80	19.08	19.31	19.37	19.51	19.65	19.54	19.65
Motor vehicles and equipment	18.79	19.36	18.91	19.02	19.13	19.18	19.25	19.04	19.39	19.68	19.82	19.96	20.19	20.03	20.08
Instruments and related products	14.43	14.87	14.60	14.73	14.80	14.75	14.81	14.98	15.00	15.06	15.00	15.03	15.16	15.15	15.22
Miscellaneous manufacturing	11.63	12.19	11.98	12.05	12.04	12.10	12.07	12.12	12.23	12.37	12.27	12.46	12.67	12.61	12.51
Nondurable goods	13.69	14.17	13.97	13.97	14.12	14.07	14.11	14.23	14.17	14.31	14.28	14.37	14.45	14.46	14.45
Food and kindred products	12.50	12.88	12.65	12.68	12.79	12.83	12.86	12.93	12.87	12.95	12.91	13.11	13.21	13.16	13.09
Tobacco products	21.57	22.28	21.49	22.63	22.59	23.01	23.17	23.63	21.90	21.70	21.71	22.32	22.21	21.91	22.16
Textile mill products	11.16	11.35	11.27	11.31	11.30	11.29	11.32	11.37	11.39	11.40	11.34	11.43	11.52	11.64	11.61
Apparel and other textile products	9.30	9.47	9.36	9.46	9.44	9.39	9.45	9.40	9.44	9.56	9.49	9.58	9.47	9.77	9.78
Paper and allied products	16.25	16.86	16.54	16.56	16.74	16.72	16.90	16.99	16.87	17.12	17.11	17.13	17.17	17.07	17.04
Printing and publishing	14.40	14.82	14.64	14.69	14.75	14.75	14.74	14.83	14.87	15.01	14.96	14.93	15.04	15.04	15.12
Chemicals and allied products	18.15	18.59	18.41	18.33	18.64	18.52	18.55	18.69	18.54	18.86	18.70	18.74	18.81	18.84	18.96
Petroleum and coal products	22.00	22.09	22.21	21.83	22.09	21.83	21.78	22.02	22.20	22.27	22.36	22.38	21.95	22.05	22.46
Rubber and miscellaneous plastics products	12.85	13.39	13.31	13.19	13.33	13.30	13.30	13.38	13.44	13.51	13.48	13.53	13.67	13.66	13.61
Leather and leather products	10.18	10.31	10.35	10.46	10.37	10.26	10.30	10.25	10.35	10.25	10.21	10.09	10.25	10.27	10.33
TRANSPORTATION AND PUBLIC UTILITIES	16.22	16.89	16.68	16.65	16.78	16.70	16.83	16.89	16.97	17.07	17.09	17.23	17.26	17.39	17.44
WHOLESALE TRADE	15.20	15.80	15.62	15.58	15.86	15.66	15.77	15.88	15.75	16.03	15.85	15.91	16.16	16.07	16.16
RETAIL TRADE	9.46	9.82	9.72	9.74	9.78	9.78	9.77	9.77	9.79	9.92	9.93	9.98	9.99	10.05	10.03
FINANCE, INSURANCE, AND REAL ESTATE	15.07	15.84	15.63	15.67	15.81	15.74	15.75	15.85	15.84	16.05	15.96	16.04	16.21	16.13	16.20
SERVICES	13.91	14.61	14.47	14.48	14.58	14.46	14.39	14.46	14.46	14.78	14.80	14.92	15.09	15.07	15.10

[P] = preliminary.

NOTE: See "Notes on the data" for a description of the most recent benchmark revision.

16. Average weekly earnings of production or nonsupervisory workers on private nonfarm payrolls, by industry

Industry	Annual average		2001											2002	
	2000	2001	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.[P]	Feb.[P]
PRIVATE SECTOR															
Current dollars	$474.38	$490.09	$481.44	$482.46	$486.61	$484.90	$489.17	$493.74	$491.23	$497.69	$493.00	$495.04	$503.62	$492.91	$497.65
Seasonally adjusted	–	–	483.97	486.03	485.98	487.01	489.40	490.43	489.60	492.75	491.98	495.81	499.66	492.91	497.65
Constant (1982) dollars	272.16	273.64	270.62	270.89	271.70	269.39	271.46	275.22	273.82	275.88	274.50	276.10	282.30	275.83	277.55
MINING	743.04	766.01	751.95	757.27	765.60	769.56	768.68	772.18	764.31	777.48	773.49	764.97	771.49	759.71	761.34
CONSTRUCTION	702.68	718.54	682.82	702.52	695.70	728.62	728.40	740.13	739.04	736.30	732.73	720.04	714.30	712.94	712.25
MANUFACTURING															
Current dollars	598.21	603.99	591.71	597.72	588.13	600.33	603.43	598.05	607.51	615.41	609.28	613.35	627.35	612.46	610.95
Constant (1982) dollars	343.21	337.24	332.61	335.61	328.38	333.52	334.87	333.36	338.63	341.14	339.24	342.08	351.65	342.73	340.74
Durable goods	623.92	626.48	613.22	620.20	607.11	624.31	626.36	617.63	633.24	639.74	631.91	636.00	652.29	638.11	636.55
Lumber and wood products	489.13	496.13	473.54	483.20	483.99	497.34	498.57	502.66	509.64	517.92	504.71	503.85	502.33	491.88	490.34
Furniture and fixtures	469.20	474.90	461.95	467.15	457.45	462.22	468.99	481.03	491.60	489.06	478.25	479.88	501.14	501.48	500.68
Stone, clay, and glass products	626.24	655.31	610.69	631.53	638.79	665.83	670.26	669.82	676.58	686.42	674.88	668.56	664.03	660.53	659.23
Primary metal industries	737.26	739.46	716.26	718.42	730.08	731.67	744.54	742.57	743.82	766.79	737.87	747.79	768.07	752.54	749.09
Blast furnaces and basic steel products	911.72	909.14	882.20	884.00	920.72	899.54	919.59	919.55	920.10	959.77	900.09	908.85	902.72	905.22	906.78
Fabricated metal products	590.86	588.94	580.84	585.73	567.22	589.12	589.95	582.22	595.11	598.43	590.40	594.93	617.39	599.87	600.09
Industrial machinery and equipment	656.21	657.54	648.49	651.30	628.03	644.23	640.71	640.77	640.00	648.42	648.43	649.23	669.53	660.14	655.66
Electronic and other electrical equipment	567.18	572.48	566.40	568.97	554.02	559.38	570.24	558.80	577.02	584.70	584.39	580.85	603.40	572.88	572.88
Transportation equipment	800.73	796.52	775.22	789.80	765.82	804.04	799.47	765.16	814.72	809.09	807.73	818.52	841.02	826.54	825.30
Motor vehicles and equipment	834.28	826.67	786.66	808.35	791.98	840.08	839.30	780.64	858.98	844.27	840.37	852.29	890.38	871.31	869.46
Instruments and related products	595.96	606.70	605.90	605.40	594.96	602.48	602.77	605.19	606.00	618.97	609.00	610.22	624.59	612.06	613.37
Miscellaneous manufacturing	453.57	462.00	454.04	461.52	450.30	458.59	463.49	458.14	468.41	467.59	462.58	464.76	483.99	467.83	471.63
Nondurable goods	558.55	571.05	560.20	561.59	559.15	564.21	568.63	569.20	571.05	582.42	576.91	589.99	589.56	578.40	575.11
Food and kindred products	521.25	529.37	509.80	513.54	510.32	522.18	528.55	528.84	535.39	543.90	538.35	544.07	549.54	535.61	523.60
Tobacco products	877.90	893.43	831.66	893.89	885.53	906.59	956.92	952.29	878.19	885.36	881.43	899.50	917.27	878.59	890.83
Textile mill products	459.79	454.00	449.67	458.06	444.09	454.99	458.46	444.57	456.74	458.28	540.20	454.91	466.56	464.44	470.21
Apparel and other textile products	351.54	353.23	352.87	355.70	346.45	355.88	357.21	349.68	350.22	350.85	348.28	354.46	365.31	357.58	363.82
Paper and allied products	690.63	703.06	683.10	687.24	688.01	690.54	701.35	708.48	695.04	722.46	715.20	717.75	726.29	706.70	700.34
Printing and publishing	551.52	564.64	557.78	565.57	554.60	556.08	557.17	563.54	568.03	577.89	571.47	573.31	577.54	560.99	565.49
Chemicals and allied products	771.38	786.36	778.74	773.53	790.34	783.40	782.81	790.59	778.68	797.78	791.01	794.58	799.43	789.40	786.84
Petroleum and coal products	932.80	943.24	957.25	936.51	965.33	910.31	934.36	953.47	954.60	955.38	936.88	935.48	906.54	917.28	911.88
Rubber and miscellaneous plastics products	531.99	544.97	543.05	538.15	529.20	539.98	543.97	535.20	544.32	556.61	548.64	553.38	574.14	558.69	556.65
Leather and leather products	381.75	375.28	373.64	375.51	369.17	370.39	378.01	360.80	379.85	377.20	369.60	373.33	385.40	385.13	384.28
TRANSPORTATION AND PUBLIC UTILITIES	626.09	643.51	637.18	362.70	641.00	632.93	642.91	650.27	646.56	648.66	646.00	649.57	661.06	650.39	652.26
WHOLESALE TRADE	585.20	603.56	590.44	592.04	607.44	598.59	603.99	611.38	603.23	620.36	603.89	607.76	623.78	609.05	615.70
RETAIL TRADE	273.39	282.82	276.05	276.62	281.66	280.69	283.33	288.22	286.85	285.70	283.01	284.43	291.71	281.40	286.86
FINANCE, INSURANCE, AND REAL ESTATE	547.04	547.99	567.37	564.12	580.23	565.78	570.15	581.70	571.82	589.04	571.37	577.44	594.91	579.07	588.06
SERVICES	454.86	477.75	471.72	472.05	476.77	469.95	471.99	478.63	474.29	483.31	479.52	484.90	496.46	485.25	490.75

[P] = preliminary.

NOTE: See "Notes on the data" for a description of the most recent benchmark revision. Dash indicates data not available.

17. Diffusion indexes of employment change, seasonally adjusted

[In percent]

Timespan and year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov	Dec.
	Private nonfarm payrolls, 356 industries											
Over 1-month span:												
1998	63.2	56.2	59.3	60.2	58.9	57.1	55.4	58.4	54.8	55.0	58.2	56.4
1999	55.1	59.6	52.8	57.2	58.2	54.2	57.1	54.4	55.2	57.9	59.9	56.8
2000	55.7	59.3	61.0	54.2	47.7	60.5	57.8	55.1	52.0	54.8	55.1	54.2
2001	53.7	50.4	55.8	45.0	46.6	44.3	45.5	43.9	44.1	38.7	38.7	41.2
2002	50.1	46.2	–	–	–	–	–	–	–	–	–	–
Over 3-month span:												
1998	65.3	66.1	64.6	65.7	62.2	57.9	57.5	58.4	59.1	59.2	59.3	59.2
1999	60.8	57.8	58.5	55.8	58.1	57.9	57.2	59.2	59.8	59.1	61.0	60.6
2000	61.6	63.3	61.9	56.2	55.1	57.9	61.5	56.4	54.1	53.3	55.7	53.3
2001	51.7	54.1	48.6	49.2	42.5	42.4	40.5	39.9	38.8	35.8	35.0	38.1
2002	41.4	43.1	–	–	–	–	–	–	–	–	–	–
Over 6-month span:												
1998	70.4	67.4	65.0	62.5	63.6	60.5	59.2	58.6	57.9	59.6	60.6	59.9
1999	59.8	59.8	58.2	60.3	56.7	59.2	61.8	60.8	62.2	61.2	62.3	64.9
2000	63.5	60.6	62.6	63.7	61.5	55.5	56.1	58.6	54.2	54.8	51.8	54.2
2001	52.0	50.6	48.6	45.3	44.1	38.5	37.1	35.6	34.4	35.4	–	–
2002	–	–	–	–	–	–	–	–	–	–	–	–
Over 12-month span:												
1998	69.7	67.6	67.4	66.0	64.0	62.7	61.9	62.0	60.9	59.3	60.8	58.8
1999	61.2	60.2	58.2	60.8	60.8	61.6	62.2	61.3	63.9	63.0	61.3	60.9
2000	62.5	63.0	61.8	59.5	58.4	56.8	55.7	56.5	54.2	53.4	53.0	51.8
2002	–	–	–	–	–	–	–	–	–	–	–	–
	Manufacturing payrolls, 139 industries											
Over 1-month span:												
1998	57.4	51.5	53.7	53.3	43.8	48.2	38.2	51.5	41.9	41.5	41.2	43.4
1999	46.9	44.5	43.0	42.3	50.4	39.3	51.5	39.3	45.2	46.3	53.3	46.7
2000	44.9	56.6	55.5	46.7	41.2	54.8	53.7	38.6	34.6	41.5	43.8	44.1
2001	37.9	32.4	41.5	31.3	29.4	33.1	39.0	27.6	36.0	29.4	25.7	29.4
2002	39.0	41.9	–	–	–	–	–	–	–	–	–	–
Over 3-month span:												
1998	59.6	59.6	55.9	50.4	46.7	37.9	41.5	41.5	41.9	38.2	36.8	40.8
1999	41.2	39.0	38.2	41.8	40.8	45.2	39.0	45.2	40.8	44.9	46.3	46.0
2000	50.0	54.0	52.9	42.3	43.0	48.5	48.2	33.6	28.7	30.5	39.0	35.7
2001	28.3	29.4	24.6	26.5	22.4	24.6	21.0	19.9	19.9	21.0	17.6	20.2
2002	27.2	32.7	–	–	–	–	–	–	–	–	–	–
Over 6-month span:												
1998	63.2	54.4	50.4	40.4	44.5	40.1	37.5	36.4	34.9	40.1	37.1	34.2
1999	36.0	38.2	37.5	41.2	36.8	39.7	43.0	41.5	46.0	40.4	46.3	51.5
2000	51.5	44.5	48.5	55.1	43.8	34.9	33.5	34.6	30.1	29.4	25.0	27.9
2001	26.8	25.4	19.9	20.6	20.2	15.1	13.2	14.0	11.8	15.8	–	–
2002	–	–	–	–	–	–	–	–	–	–	–	–
Over 12-month span:												
1998	54.8	52.2	51.8	46.7	40.4	40.1	38.2	37.5	36.4	34.6	35.7	34.2
1999	38.6	34.6	32.4	36.0	37.9	39.0	40.1	40.4	44.5	46.0	44.9	44.5
2000	46.3	45.2	41.2	37.9	33.8	31.3	31.3	31.3	27.6	25.4	24.3	21.3
2001	19.1	16.5	14.7	16.2	15.1	12.1	14.0	–	–	–	–	–
2002	–	–	–	–	–	–	–	–	–	–	–	–

Dash indicates data not available.

NOTE: Figures are the percent of industries with employment increasing plus one-half of the industries with unchanged employment, where 50 percent indicates an equal balance between industries with inceasing and decreasing employment.

Data for the 2 most recent months shown in each span are preliminary. See the "Definitions" in this section. See "Notes on the data" for a description of the most recent benchmark revision.

18. Establishment size and employment covered under UI, private ownership, by major industry division, first quarter 2000

Industry, establishments, and employment	Total	Size of establishments								
		Fewer than 5 workers[1]	5 to 9 workers	10 to 19 workers	20 to 49 workers	50 to 99 workers	100 to 249 workers	250 to 499 workers	500 to 999 workers	1,000 or more workers
Total, all industries[2]										
Establishments, first quarter	7,531,330	4,413,181	1,302,488	850,411	590,662	206,415	119,172	31,311	11,713	5,977
Employment, March	108,195,174	6,831,146	8,615,974	11,471,927	17,878,154	14,212,796	17,895,603	10,658,780	7,965,372	12,665,422
Agriculture, forestry, and fishing										
Establishments, first quarter	200,289	123,880	37,646	22,736	11,179	2,875	1,473	370	106	24
Employment, March	1,702,493	179,158	248,989	302,599	326,510	196,681	216,628	126,181	69,476	36,271
Mining										
Establishments, first quarter	27,284	14,102	4,323	3,728	3,202	1,023	591	214	76	25
Employment, March	524,514	22,082	28,959	51,183	97,241	69,762	89,714	74,836	52,916	37,821
Construction										
Establishments, first quarter	747,563	477,549	126,844	76,253	46,543	13,242	5,748	1,053	272	59
Employment, March	6,310,456	703,310	831,405	1,024,819	1,389,870	898,785	846,893	347,400	182,357	85,617
Manufacturing										
Establishments, first quarter	405,838	147,029	67,385	61,150	61,487	30,568	24,264	8,646	3,598	1,711
Employment, March	18,433,795	251,154	453,397	842,691	1,922,360	2,144,676	3,739,308	2,977,743	2,446,323	3,656,143
Transportation and public utilities										
Establishments, first quarter	315,413	174,645	49,173	36,475	30,720	12,952	7,913	2,127	892	516
Employment, March	6,678,516	272,380	325,334	498,572	945,800	895,012	1,190,459	726,615	618,630	1,205,714
Wholesale trade										
Establishments, first quarter	664,094	400,335	110,091	77,321	52,153	15,187	7,019	1,478	414	96
Employment, March	6,947,770	621,924	729,753	1,046,983	1,565,359	1,035,060	1,035,170	496,350	274,988	142,183
Retail trade										
Establishments, first quarter	1,458,626	623,529	329,260	235,941	179,053	57,988	26,380	4,982	1,169	324
Employment, March	22,807,395	1,154,942	2,204,569	3,190,042	5,437,335	3,943,391	3,880,016	1,659,975	764,056	573,069
Finance, insurance, and real estate										
Establishments, first quarter	671,294	438,402	114,349	62,141	35,549	11,618	6,025	1,799	898	513
Employment, March	7,379,831	714,292	751,197	826,817	1,065,116	797,168	912,396	621,570	615,246	1,076,029
Services										
Establishments, first quarter	2,890,313	1,879,338	451,715	271,168	169,867	60,864	39,727	10,640	4,286	2,708
Employment, March	37,110,557	2,772,133	2,967,673	3,643,823	5,102,854	4,225,937	5,980,102	3,627,319	2,939,641	5,851,075

[1] Includes establishments that reported no workers in March 2000.

[2] Includes data for nonclassifiable establishments, not shown separately.

NOTE: Detail may not add to totals due to rounding.

19. Annual data: establishments, employment, and wages covered under UI and UCFE by ownership

Year	Average establishments	Average annual employment	Total annual wages (in thousands)	Average annual wages per employee	Average weekly wage
	Total covered (UI and UCFE)				
1991	6,382,523	106,884,831	$2,626,972,030	$24,578	$473
1992	6,532,608	107,413,728	2,781,676,477	25,897	498
1993	6,679,934	109,422,571	2,884,472,282	26,361	507
1994	6,826,677	112,611,287	3,033,676,678	26,939	518
1995	7,040,677	115,487,841	3,215,921,236	27,846	536
1996	7,189,168	117,963,132	3,414,514,808	28,946	557
1997	7,369,473	121,044,432	3,674,031,718	30,353	584
1998	7,634,018	124,183,549	3,967,072,423	31,945	614
1999	7,820,860	127,042,282	4,235,579,204	33,340	641
2000	7,879,116	129,877,063	4,587,708,584	35,323	679
	UI covered				
1991	6,336,151	103,755,832	$2,524,937,018	$24,335	$468
1992	6,485,473	104,288,324	2,672,081,827	25,622	493
1993	6,632,221	106,351,431	2,771,023,411	26,055	501
1994	6,778,300	109,588,189	2,918,684,128	26,633	512
1995	6,990,594	112,539,795	3,102,353,355	27,567	530
1996	7,137,644	115,081,246	3,298,045,286	28,658	551
1997	7,317,363	118,233,942	3,553,933,885	30,058	578
1998	7,586,767	121,400,660	3,845,494,089	31,676	609
1999	7,771,198	124,255,714	4,112,169,533	33,094	636
2000	7,828,861	127,005,574	4,454,966,824	35,077	675
	Private industry covered				
1991	6,162,684	89,007,096	$2,152,021,705	$24,178	$465
1992	6,308,719	89,349,803	2,282,598,431	25,547	491
1993	6,454,381	91,202,971	2,365,301,493	25,934	499
1994	6,596,158	94,146,344	2,494,458,555	26,496	510
1995	6,803,454	96,894,844	2,658,927,216	27,441	528
1996	6,946,858	99,268,446	2,837,334,217	28,582	550
1997	7,121,182	102,175,161	3,071,807,287	30,064	578
1998	7,381,518	105,082,368	3,337,621,699	31,762	611
1999	7,560,567	107,619,457	3,577,738,557	33,244	639
2000	7,622,274	110,015,333	3,887,626,769	35,337	680
	State government covered				
1991	58,499	4,005,321	$108,672,127	$27,132	$522
1992	58,801	4,044,914	112,405,340	27,789	534
1993	59,185	4,088,075	117,095,062	28,643	551
1994	60,686	4,162,944	122,879,977	29,518	568
1995	60,763	4,201,836	128,143,491	30,497	586
1996	62,146	4,191,726	131,605,800	31,397	604
1997	65,352	4,214,451	137,057,432	32,521	625
1998	67,347	4,240,779	142,512,445	33,605	646
1999	70,538	4,296,673	149,011,194	34,681	667
2000	65,096	4,370,160	158,618,365	36,296	698
	Local government covered				
1991	114,936	10,742,558	$264,215,610	$24,595	$473
1992	117,923	10,892,697	277,045,557	25,434	489
1993	118,626	11,059,500	288,594,697	26,095	502
1994	121,425	11,278,080	301,315,857	26,717	514
1995	126,342	11,442,238	315,252,346	27,552	530
1996	128,640	11,621,074	329,105,269	28,320	545
1997	130,829	11,844,330	345,069,166	29,134	560
1998	137,902	12,077,513	365,359,945	30,251	582
1999	140,093	12,339,584	385,419,781	31,234	601
2000	141,491	12,620,081	408,721,690	32,387	623
	Federal Government covered (UCFE)				
1991	46,372	3,128,999	$102,035,012	$32,609	$627
1992	47,136	3,125,404	109,594,650	35,066	674
1993	47,714	3,071,140	113,448,871	36,940	710
1994	48,377	3,023,098	114,992,550	38,038	731
1995	50,083	2,948,046	113,567,881	38,523	741
1996	51,524	2,881,887	116,469,523	40,414	777
1997	52,110	2,810,489	120,097,833	42,732	822
1998	47,252	2,782,888	121,578,334	43,688	840
1999	49,661	2,786,567	123,409,672	44,287	852
2000	50,256	2,871,489	132,741,760	46,228	889

NOTE: Detail may not add to totals due to rounding.

20. Annual data: establishments, employment, and wages covered under UI and UCFE, by State

State	Average establishments		Average annual employment		Total annual wages (in thousands)		Average weekly wage	
	2000	1999-2000 change	2000	1999-2000 change	2000	1999-2000 change	2000	1999-2000 change
Total United States	7,879,116	58,256	129,877,063	2,834,781	$4,587,708,584	$352,129,380	$679	$38
Alabama	112,328	454	1,877,963	6,911	54,538,027	1,970,401	558	18
Alaska	18,820	32	275,607	6,674	9,685,341	532,709	676	22
Arizona	115,171	2,589	2,220,712	70,174	72,417,033	6,772,271	627	40
Arkansas	72,240	406	1,130,891	17,750	29,761,939	1,520,062	506	18
California	1,026,568	-33,271	14,867,006	472,932	612,318,313	71,430,084	792	69
Colorado	148,479	6,278	2,186,656	81,404	81,273,035	9,292,033	715	57
Connecticut	107,787	1,696	1,674,728	22,363	76,176,856	5,650,414	875	54
Delaware	24,751	584	406,350	4,210	14,845,185	707,255	703	27
District of Columbia	28,409	1,474	637,292	21,588	33,753,742	2,423,907	1,019	40
Florida	444,731	9,134	7,060,986	216,337	215,780,400	17,731,492	588	32
Georgia	225,040	6,628	3,883,005	88,250	132,853,189	10,161,751	658	36
Hawaii	34,027	1,564	553,185	15,440	16,942,944	921,218	589	16
Idaho	45,399	1,128	563,193	20,785	15,600,825	1,474,196	533	32
Illinois	322,324	2,721	5,940,772	90,253	226,012,936	13,664,320	732	34
Indiana	152,846	-1,089	2,936,634	29,778	91,086,141	3,800,930	596	19
Iowa	97,091	2,479	1,443,394	12,412	40,312,331	1,743,623	537	19
Kansas	80,477	1,036	1,313,742	14,945	38,571,763	2,164,568	565	26
Kentucky	107,740	2,403	1,762,949	31,482	50,774,667	2,669,580	554	20
Louisiana	118,216	1,549	1,869,219	21,317	52,131,235	1,838,194	536	13
Maine	44,865	956	590,818	17,005	16,344,365	916,386	532	15
Maryland	146,559	1,117	2,405,510	58,631	87,548,876	6,606,334	700	37
Massachusetts	187,391	344	3,275,135	83,493	145,184,150	16,396,342	852	76
Michigan	260,885	2,244	4,585,211	82,445	169,702,272	8,726,750	712	24
Minnesota	155,711	4,932	2,608,543	57,751	92,377,120	6,959,859	681	37
Mississippi	63,970	229	1,137,304	-1,880	28,665,889	879,567	485	16
Missouri	163,080	2,303	2,677,110	31,687	84,020,093	4,745,993	604	28
Montana	38,349	1,585	379,094	7,855	9,202,211	567,364	467	20
Nebraska	51,838	4	882,918	16,308	24,449,709	1,370,028	533	21
Nevada	48,126	194	1,017,902	41,975	32,853,744	2,392,271	621	21
New Hampshire	45,924	494	606,543	15,318	21,069,920	2,067,493	668	50
New Jersey	270,384	-15,337	3,877,572	85,195	169,355,641	13,725,235	840	51
New Mexico	47,987	693	717,243	16,339	19,722,105	1,311,285	529	24
New York	529,103	4,797	8,471,416	178,874	384,241,451	34,472,229	872	61
North Carolina	222,234	7,270	3,862,782	58,413	120,007,446	7,922,007	597	30
North Dakota	23,297	240	309,223	3,263	7,632,602	365,713	475	18
Ohio	280,988	1,073	5,513,217	62,090	179,218,763	8,080,924	625	21
Oklahoma	89,298	1,368	1,452,166	29,357	39,191,626	2,464,854	519	23
Oregon	109,050	-1,296	1,608,069	32,067	52,703,467	4,049,166	630	36
Pennsylvania	315,284	13,267	5,558,076	98,602	189,058,210	10,557,733	654	25
Rhode Island	33,327	621	467,602	10,766	15,250,760	1,011,495	627	28
South Carolina	109,370	-1,993	1,820,138	27,993	51,289,516	2,664,765	542	20
South Dakota	27,145	437	364,119	8,334	9,030,727	574,920	477	20
Tennessee	125,247	-51	2,667,230	40,186	81,495,110	4,055,765	588	21
Texas	489,795	8,425	9,289,286	272,645	324,579,638	27,952,132	672	39
Utah	66,144	2,282	1,044,143	26,519	30,518,822	2,131,853	562	26
Vermont	23,870	805	296,462	8,473	8,571,976	624,326	556	25
Virginia	192,745	3,212	3,427,954	100,832	120,567,926	10,689,950	676	41
Washington	221,150	9,010	2,706,462	62,732	100,381,521	5,904,038	713	26
West Virginia	46,830	21	686,622	6,014	18,461,154	752,890	517	17
Wisconsin	145,871	977	2,736,054	44,603	83,980,263	4,294,806	590	21
Wyoming	20,861	238	230,857	5,892	6,195,607	425,897	516	23
Puerto Rico	52,371	202	1,026,175	23,785	19,306,364	709,126	362	5
Virgin Islands	3,255	32	42,349	1,411	1,173,955	104,996	533	31

NOTE: Detail may not add to totals due to rounding.

21. Annual data: Employment and average annual pay for all workers covered under UI and UCFE in the 316 largest U.S. counties

County[1]	Employment			Average annual pay	
	2000	Percent change, 1999-2000[2]	Ranked by percent change, 1999-2000[3]	2000	Percent change, 1999-2000[2]
United States[4]	129,877,063	2.2	–	35,323	5.9
Jefferson, AL	384,662	.6	256	34,026	3.9
Madison, AL	154,356	1.7	186	35,837	5.0
Mobile, AL	169,469	-.1	291	28,623	2.4
Montgomery, AL	131,988	.2	285	28,894	3.2
Tuscaloosa, AL	76,499	.8	244	29,064	2.5
Anchorage, AK	129,700	2.0	164	36,659	2.7
Maricopa, AZ	1,544,971	3.6	48	35,110	7.8
Pima, AZ	328,426	3.1	77	29,194	3.5
Pulaski, AR	243,157	.4	272	30,799	3.8
Sebastian, AR	75,197	1.1	228	27,011	4.8
Washington, AR	80,045	3.3	61	26,408	3.8
Alameda, CA	696,242	3.0	84	45,091	9.8
Contra Costa, CA	336,691	3.1	78	42,318	3.7
Fresno, CA	322,759	1.9	169	26,162	4.8
Kern, CA	238,250	2.1	153	28,572	5.7
Los Angeles, CA	4,098,154	1.7	187	39,651	4.9
Marin, CA	111,645	2.1	154	42,600	8.5
Monterey, CA	164,646	2.5	118	29,962	5.1
Orange, CA	1,394,414	3.6	49	39,247	4.8
Placer, CA	107,182	8.9	3	33,386	5.3
Riverside, CA	469,467	5.3	12	29,136	4.7
Sacramento, CA	573,942	2.6	107	37,732	7.2
San Bernardino, CA	528,437	3.0	85	29,901	3.8
San Diego, CA	1,195,116	3.0	86	37,535	8.1
San Francisco, CA	609,138	3.7	43	57,532	12.0
San Joaquin, CA	201,070	3.1	79	29,237	4.7
San Luis Obispo, CA	94,883	3.6	50	28,096	6.2
San Mateo, CA	378,494	5.3	13	67,051	30.4
Santa Barbara, CA	176,901	3.0	87	32,566	8.2
Santa Clara, CA	1,030,633	6.1	9	76,213	24.7
Santa Cruz, CA	101,833	3.3	62	35,819	15.5
Solano, CA	117,217	3.7	44	31,670	8.4
Sonoma, CA	190,946	3.1	80	35,715	11.3
Stanislaus, CA	160,948	1.7	188	28,201	4.4
Tulare, CA	132,986	3.6	51	23,750	4.6
Ventura, CA	287,611	3.4	57	37,069	9.1
Yolo, CA	84,565	1.5	201	33,438	3.3
Adams, CO	144,806	3.6	52	33,428	4.8
Arapahoe, CO	284,236	3.9	38	46,254	7.8
Boulder, CO	179,719	8.2	4	45,564	13.9
Denver, CO	469,137	3.2	69	44,343	11.6
El Paso, CO	237,739	3.4	58	33,039	7.7
Jefferson, CO	210,519	2.6	108	36,195	5.2
Larimer, CO	119,155	5.1	16	32,394	7.9
Fairfield, CT	427,557	1.1	229	61,156	8.5
Hartford, CT	501,562	1.1	230	43,656	6.2
New Haven, CT	367,343	1.1	231	38,355	5.4
New London, CT	123,039	.6	257	36,757	3.8
New Castle, DE	281,920	-.7	301	40,491	4.5
Washington, DC	637,292	3.5	54	52,964	4.1
Alachua, FL	117,658	2.5	119	26,155	3.9
Brevard, FL	181,314	3.3	63	32,101	7.2
Broward, FL	644,192	3.3	64	33,234	6.5
Collier, FL	103,264	6.9	6	29,962	6.9
Duval, FL	434,219	4.1	32	32,777	4.6
Escambia, FL	125,666	1.0	235	26,709	4.5
Hillsborough, FL	588,792	2.5	120	31,707	4.8
Lee, FL	162,304	4.4	25	28,148	6.4
Leon, FL	141,978	2.2	142	29,249	4.1
Manatee, FL	([5])	([5])	([5])	([5])	([5])
Marion, FL	83,319	1.7	189	24,953	3.3
Miami-Dade, FL	980,394	2.3	135	33,333	3.9
Orange, FL	611,469	3.2	70	31,123	4.6
Palm Beach, FL	481,395	4.1	33	35,233	7.3
Pinellas, FL	436,390	4.2	29	31,263	5.4
Polk, FL	183,222	2.6	109	27,881	3.5
Sarasota, FL	([5])	([5])	([5])	([5])	([5])
Seminole, FL	139,610	4.6	23	30,835	6.9
Volusia, FL	141,652	1.4	207	25,079	5.5
Bibb, GA	88,790	-1.2	308	29,299	3.2
Chatham, GA	122,785	1.3	214	29,650	1.9
Clayton, GA	116,368	-.6	296	36,774	6.7
Cobb, GA	301,183	1.3	215	38,792	5.4

See footnotes at end of table.

21. Continued—Annual data: Employment and average annual pay for all workers covered under UI and UCFE in the 316 largest U.S. counties

County[1]	Employment			Average annual pay	
	2000	Percent change, 1999-2000[2]	Ranked by percent change, 1999-2000[3]	2000	Percent change, 1999-2000[2]
Dekalb, GA	310,659	-.6	297	38,614	4.9
Fulton, GA	754,368	2.7	103	47,060	8.5
Gwinnett, GA	281,654	4.1	34	39,051	6.0
Muscogee, GA	98,315	-.1	292	27,744	3.7
Richmond, GA	106,260	-.6	298	28,592	3.6
Honolulu, HI	407,935	2.6	110	31,874	2.8
Ada, ID	177,741	6.5	8	34,460	10.0
Champaign, IL	90,429	2.8	96	29,183	4.2
Cook, IL	2,687,795	1.3	216	42,898	5.8
Du Page, IL	582,352	1.7	190	42,570	3.6
Kane, IL	193,410	2.9	91	32,173	.1
Lake, IL	310,689	3.1	81	42,620	6.7
McHenry, IL	87,258	1.9	170	32,007	2.0
McLean, IL	84,324	.6	258	34,254	4.1
Madison, IL	94,550	.4	273	28,974	2.9
Peoria, IL	102,801	.1	287	31,387	1.6
Rock Island, IL	80,273	.8	245	33,525	4.5
St. Clair, IL	89,963	2.2	143	26,878	2.6
Sangamon, IL	144,286	4.4	26	34,764	1.7
Will, IL	142,355	3.5	55	32,313	2.1
Winnebago, IL	143,760	.5	265	31,499	2.0
Allen, IN	189,425	.3	281	32,279	3.0
Elkhart, IN	122,468	.6	259	30,339	2.3
Hamilton, IN	77,452	3.0	88	37,931	7.9
Lake, IN	199,421	-.6	299	31,564	4.0
Marion, IN	605,903	1.6	194	36,473	3.2
St. Joseph, IN	129,558	.5	266	29,657	3.5
Tippecanoe, IN	77,377	1.1	232	31,083	4.0
Vanderburgh, IN	109,904	.7	251	29,569	3.2
Linn, IA	121,968	2.1	155	34,097	4.9
Polk, IA	263,940	1.3	217	33,666	2.5
Scott, IA	87,113	-.4	295	29,067	3.9
Johnson, KS	287,797	2.8	97	37,247	6.7
Sedgwick, KS	249,846	.0	289	32,696	2.9
Shawnee, KS	100,223	2.4	130	29,375	3.2
Wyandotte, KS	79,746	1.8	177	34,592	2.9
Fayette, KY	172,031	1.8	178	30,713	3.8
Jefferson, KY	439,103	1.4	208	33,334	3.9
Caddo, LA	119,449	.3	282	28,767	3.2
Calcasieu, LA	83,976	.1	288	28,226	.9
East Baton Rouge, LA	246,434	2.7	104	29,257	1.6
Jefferson, LA	214,680	-.7	302	28,051	2.1
Lafayette, LA	114,059	2.3	136	29,911	5.5
Orleans, LA	263,551	1.9	171	31,694	1.3
Cumberland, ME	166,757	3.7	45	30,752	1.1
Anne Arundel, MD	194,018	5.3	14	35,461	7.3
Baltimore, MD	358,117	1.2	222	34,119	4.7
Frederick, MD	77,323	4.9	22	30,847	5.9
Howard, MD	128,678	3.2	71	37,897	5.1
Montgomery, MD	447,314	5.0	20	43,708	5.8
Prince Georges, MD	303,262	3.3	65	37,060	6.9
Baltimore City, MD	386,411	.8	246	38,579	4.5
Barnstable, MA	88,589	3.7	46	29,726	.0
Bristol, MA	221,539	1.3	218	30,785	4.6
Essex, MA	305,382	2.5	121	39,154	8.8
Hampden, MA	204,303	1.9	172	32,220	4.8
Middlesex, MA	846,931	3.1	82	52,091	11.8
Norfolk, MA	325,018	2.4	131	43,368	10.4
Plymouth, MA	166,482	1.3	219	33,931	6.3
Suffolk, MA	608,285	3.3	66	56,699	11.6
Worcester, MA	321,131	2.5	122	37,657	10.8
Genesee, MI	165,297	-1.4	313	36,324	1.4
Ingham, MI	174,315	2.0	165	34,963	5.6
Kalamazoo, MI	118,342	-.1	293	32,675	2.3
Kent, MI	347,707	1.6	195	33,996	2.6
Macomb, MI	337,504	.3	283	40,904	3.5
Oakland, MI	768,629	1.0	236	44,500	4.2
Ottawa, MI	118,711	1.8	179	31,947	3.5
Saginaw, MI	95,474	-.8	304	34,672	2.5
Washtenaw, MI	195,624	.5	267	40,182	5.3
Wayne, MI	866,282	1.2	223	42,440	3.5
Anoka, MN	108,989	3.8	40	33,928	4.5
Dakota, MN	153,364	2.6	111	34,362	4.7
Hennepin, MN	874,693	2.1	156	43,816	7.1
Olmsted, MN	82,670	3.9	39	36,104	3.1

See footnotes at end of table.

21. Continued—Annual data: Employment and average annual pay for all workers covered under UI and UCFE in the 316 largest U.S. counties

County[1]	Employment			Average annual pay	
	2000	Percent change, 1999-2000[2]	Ranked by percent change, 1999-2000[3]	2000	Percent change, 1999-2000[2]
Ramsey, MN	332,929	1.6	196	39,069	5.8
St Louis, MN	94,926	1.4	209	28,903	4.6
Stearns, MN	76,292	3.1	83	27,584	4.2
Harrison, MS	89,745	.4	274	25,442	4.8
Hinds, MS	136,949	-1.2	309	30,578	4.6
Boone, MO	75,785	2.8	98	27,361	3.1
Clay, MO	84,159	.0	290	32,207	6.4
Greene, MO	142,508	2.4	132	26,971	3.2
Jackson, MO	393,761	.4	275	36,056	6.2
St. Charles, MO	95,799	3.2	72	29,515	3.8
St. Louis, MO	646,858	.8	247	38,145	5.6
St. Louis City, MO	250,878	.4	276	38,612	4.1
Douglas, NE	330,128	2.1	157	32,356	4.1
Lancaster, NE	146,433	1.8	180	28,511	3.9
Clark, NV	697,575	5.3	15	32,131	3.4
Washoe, NV	189,102	3.2	73	32,748	4.4
Hillsborough, NH	193,796	2.7	105	39,212	9.1
Rockingham, NH	129,494	4.1	35	35,823	9.8
Atlantic, NJ	140,141	-.2	294	31,068	3.4
Bergen, NJ	448,513	.5	268	46,306	7.0
Burlington, NJ	180,165	.8	248	37,597	4.7
Camden, NJ	199,768	-1.1	307	35,130	3.2
Essex, NJ	363,942	1.6	197	44,653	3.5
Gloucester, NJ	86,667	.7	252	32,055	2.8
Hudson, NJ	238,388	3.4	59	47,427	10.2
Mercer, NJ	210,031	3.3	67	44,658	5.2
Middlesex, NJ	392,427	.6	260	46,487	5.8
Monmouth, NJ	233,285	2.5	123	39,695	5.4
Morris, NJ	275,499	2.8	99	60,487	19.0
Ocean, NJ	129,093	2.5	124	30,447	4.6
Passaic, NJ	177,364	.6	261	37,759	2.0
Somerset, NJ	173,571	4.1	36	54,781	5.1
Union, NJ	237,176	2.2	144	45,282	4.9
Bernalillo, NM	307,705	2.6	112	30,184	4.1
Albany, NY	230,962	1.4	210	35,795	6.1
Bronx, NY	212,982	2.2	145	32,850	2.7
Broome, NY	99,613	1.2	224	29,658	3.6
Dutchess, NY	109,949	1.9	173	36,065	2.2
Erie, NY	459,828	1.0	237	31,489	3.0
Kings, NY	441,916	2.3	137	30,760	3.7
Monroe, NY	399,602	.9	242	35,423	1.8
Nassau, NY	598,538	1.6	198	40,023	4.4
New York, NY	2,382,175	3.2	74	72,572	10.3
Niagara, NY	78,186	.2	286	31,112	3.7
Oneida, NY	110,684	1.4	211	27,300	3.4
Onondaga, NY	252,476	.7	253	32,499	3.4
Orange, NY	119,571	1.6	199	29,357	4.6
Queens, NY	480,676	1.3	220	34,986	4.4
Richmond, NY	88,245	1.9	174	32,149	4.2
Rockland, NY	106,361	1.4	212	37,264	4.3
Suffolk, NY	578,401	2.3	138	37,862	6.6
Westchester, NY	405,440	2.3	139	47,066	8.3
Buncombe, NC	106,036	.5	269	27,652	3.8
Catawba, NC	101,321	2.6	113	28,210	4.0
Cumberland, NC	109,858	1.2	225	26,112	3.9
Durham, NC	167,191	2.9	92	49,359	12.6
Forsyth, NC	181,619	1.8	181	34,011	6.3
Gaston, NC	77,176	-3.6	314	28,335	4.0
Guilford, NC	279,889	.6	262	32,216	2.5
Mecklenburg, NC	514,223	3.8	41	40,538	5.4
New Hanover, NC	87,019	.4	277	28,560	4.3
Wake, NC	383,705	3.3	68	35,377	7.4
Cass, ND	81,823	2.2	146	27,801	4.1
Butler, OH	126,189	2.6	114	31,502	1.7
Cuyahoga, OH	817,572	.9	243	36,520	4.2
Franklin, OH	701,913	2.2	147	34,970	4.6
Hamilton, OH	566,965	.8	249	37,598	3.9
Lake, OH	102,320	1.5	202	30,735	2.1
Lorain, OH	105,988	2.3	140	32,013	1.9
Lucas, OH	238,450	.6	263	32,255	2.3
Mahoning, OH	112,531	-.6	300	25,966	3.0
Montgomery, OH	303,352	.4	278	34,532	2.6
Stark, OH	175,535	1.7	191	28,505	2.1
Summit, OH	266,001	.4	279	32,735	4.2

See footnotes at end of table.

21. Continued—Annual data: Employment and average annual pay for all workers covered under UI and UCFE in the 316 largest U.S. counties

County[1]	Employment			Average annual pay	
	2000	Percent change, 1999-2000[2]	Ranked by percent change, 1999-2000[3]	2000	Percent change, 1999-2000[2]
Trumbull, OH	94,382	-1.3	311	32,785	1.0
Oklahoma, OK	414,239	2.9	93	29,216	4.6
Tulsa, OK	340,671	2.5	125	31,157	3.7
Clackamas, OR	133,065	2.2	148	32,482	4.0
Lane, OR	139,710	1.1	233	27,877	3.5
Marion, OR	127,558	2.0	166	28,116	2.9
Multnomah, OR	453,274	2.1	158	36,796	6.2
Washington, OR	224,033	4.3	27	44,459	13.4
Allegheny, PA	711,068	1.2	226	36,727	2.5
Berks, PA	168,068	1.8	182	32,007	3.3
Bucks, PA	244,317	2.5	126	34,059	3.4
Chester, PA	216,777	2.5	127	43,762	6.9
Cumberland, PA	123,998	-1.3	312	32,811	3.2
Dauphin, PA	172,465	2.1	159	33,680	2.2
Delaware, PA	212,540	1.0	238	36,828	5.5
Erie, PA	131,700	2.5	128	28,368	1.8
Lackawanna, PA	98,383	-.7	303	27,663	7.5
Lancaster, PA	218,280	1.8	183	30,809	4.6
Lehigh, PA	171,175	2.0	167	35,274	2.5
Luzerne, PA	143,066	2.2	149	27,855	2.7
Montgomery, PA	481,011	2.3	141	43,810	6.5
Northampton, PA	87,846	3.0	89	30,767	3.1
Philadelphia, PA	668,793	1.5	203	39,700	4.5
Westmoreland, PA	134,436	1.0	239	27,992	1.3
York, PA	167,757	2.2	150	30,926	3.3
Providence, RI	290,809	1.7	192	33,410	4.0
Charleston, SC	182,793	1.3	221	27,680	4.8
Greenville, SC	233,062	2.6	115	31,281	4.0
Horry, SC	99,124	1.7	193	22,883	5.4
Lexington, SC	81,341	2.0	168	27,505	3.5
Richland, SC	207,508	.6	264	29,627	4.1
Spartanburg, SC	119,791	.5	270	30,596	3.4
Minnehaha, SD	105,837	3.2	75	28,212	3.7
Davidson, TN	434,901	1.5	204	34,863	5.4
Hamilton, TN	188,161	1.8	184	30,574	4.0
Knox, TN	202,688	3.4	60	30,090	4.1
Rutherford, TN	76,993	2.5	129	31,132	3.6
Shelby, TN	500,255	1.0	240	34,357	2.5
Bell, TX	87,850	2.1	160	25,193	4.1
Bexar, TX	648,942	2.2	151	29,923	5.2
Brazoria, TX	75,417	2.8	100	34,367	3.3
Cameron, TX	109,115	5.4	11	21,553	2.6
Collin, TX	167,956	5.9	10	40,509	5.8
Dallas, TX	1,567,626	4.2	30	44,381	7.7
Denton, TX	119,722	3.7	47	29,298	4.0
El Paso, TX	251,557	1.5	205	25,069	3.2
Fort Bend, TX	87,763	2.4	133	35,801	5.1
Galveston, TX	86,844	-1.0	306	29,518	4.0
Harris, TX	1,840,442	2.8	101	41,869	7.7
Hidalgo, TX	163,443	7.1	5	21,671	2.7
Jefferson, TX	120,815	1.1	234	31,277	.8
Lubbock, TX	115,422	1.9	175	26,297	6.3
Mc Lennan, TX	98,076	1.0	241	27,034	2.1
Montgomery, TX	76,865	5.0	21	32,119	9.7
Nueces, TX	142,309	.8	250	28,187	4.7
Potter, TX	75,572	.7	254	26,552	2.8
Smith, TX	83,353	2.8	102	29,509	3.6
Tarrant, TX	703,025	3.5	56	35,438	5.0
Travis, TX	538,193	5.1	17	41,332	7.0
Williamson, TX	76,588	9.5	2	50,415	-4.5
Davis, UT	84,640	3.2	76	27,711	7.2
Salt Lake, UT	531,240	2.6	116	32,192	5.0
Utah, UT	142,369	4.5	24	27,891	5.0
Weber, UT	86,404	.4	280	26,644	2.5
Chittenden, VT	95,343	5.1	18	34,288	4.2
Arlington, VA	157,906	4.1	37	52,846	7.1
Chesterfield, VA	107,932	2.1	161	31,880	3.5
Fairfax, VA	537,647	6.7	7	51,576	10.3
Henrico, VA	165,617	2.4	134	36,138	5.8
Loudoun, VA	87,265	11.9	1	54,141	3.6
Prince William, VA	78,209	4.3	28	28,986	5.5
Alexandria, VA	91,818	5.1	19	42,101	6.1
Chesapeake, VA	81,294	2.1	162	26,069	4.2
Newport News, VA	93,607	1.8	185	30,261	5.4
Norfolk, VA	145,197	.3	284	32,179	4.9

See footnotes at end of table.

21. Continued—Annual data: Employment and average annual pay for all workers covered under UI and UCFE in the 316 largest U.S. counties

County[1]	Employment			Average annual pay	
	2000	Percent change, 1999-2000[2]	Ranked by percent change, 1999-2000[3]	2000	Percent change, 1999-2000[2]
Richmond, VA	166,923	1.4	213	38,635	5.1
Roanoke City, VA	75,894	3.0	90	29,487	4.6
Virginia Beach, VA	165,610	3.6	53	25,414	4.4
Clark, WA	113,910	1.5	206	32,163	6.0
King, WA	1,162,290	2.7	106	47,459	3.0
Pierce, WA	241,654	4.2	31	29,854	4.2
Snohomish, WA	209,557	-1.2	310	35,091	3.6
Spokane, WA	188,843	2.9	94	29,760	7.9
Thurston, WA	84,277	1.6	200	31,745	6.9
Yakima, WA	94,233	1.9	176	23,237	3.7
Kanawha, WV	112,920	.7	255	30,156	3.1
Brown, WI	142,359	2.1	163	31,538	2.9
Dane, WI	274,353	2.6	117	32,817	5.5
Milwaukee, WI	528,837	.5	271	34,744	3.1
Outagamie, WI	94,364	2.9	95	30,769	4.4
Racine, WI	79,160	-.9	305	32,536	-.6
Waukesha, WI	222,877	1.2	227	35,767	5.2
Winnebago, WI	90,256	2.2	152	33,622	2.7
San Juan, PR	327,187	3.8	42	21,312	3.5

[1] Includes areas not officially designated as counties. See Notes on Current Labor Statistics.

[2] Percent changes were computed from annual employment and pay data adjusted for noneconomic county reclassifications. See Notes on Current Labor Statistics.

[3] Rankings for percent change in employment are based on the 314 counties that are comparable over the year.

[4] Totals for the United States do not include data for Puerto Rico.

[5] Data are not available for release.

Note: Data pertain to workers covered by Unemployment Insurance (UI) and Unemployment Compensation for Federal Employees (UCFE) programs. The 315 U.S. counties comprise 70.8 percent of the total covered workers in the United States

22. Annual data: Employment status of the population

[Numbers in thousands]

Employment status	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Civilian noninstitutional population	192,805	194,838	196,814	198,584	200,591	203,133	205,220	207,753	209,699	211,864
Civilian labor force	128,105	129,200	131,056	132,304	133,943	136,297	137,673	139,368	140,863	141,815
Labor force participation rate	66.4	66.3	66.6	66.6	66.8	67.1	67.1	67.1	67.2	66.9
Employed	118,492	120,259	123,060	124,900	126,708	129,558	131,463	133,488	135,208	135,073
Employment-population ratio	61.5	61.7	62.5	62.9	63.2	63.8	64.1	64.3	64.5	63.8
Agriculture	3,247	3,115	3,409	3,440	3,443	3,399	3,378	3,281	3,305	3,144
Nonagricultural industries	115,245	117,144	119,651	121,460	123,264	126,159	128,085	130,207	131,903	131,929
Unemployed	9,613	8,940	7,996	7,404	7,236	6,739	6,210	5,880	5,655	6,742
Unemployment rate	7.5	6.9	6.1	5.6	5.4	4.9	4.5	4.2	4.0	4.8
Not in the labor force	64,700	65,638	65,758	66,280	66,647	66,837	67,547	68,385	68,836	70,050

23. Annual data: Employment levels by industry

[In thousands]

Industry	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Total employment	108,601	110,713	114,163	117,191	119,608	122,690	125,865	128,916	131,759	132,213
Private sector	89,956	91,872	95,036	97,885	100,189	103,133	106,042	108,709	111,079	111,341
Goods-producing	23,231	23,352	23,908	24,265	24,493	24,962	25,414	25,507	25,709	25,122
Mining	635	610	601	581	580	596	590	539	543	563
Construction	4,492	4,668	4,986	5,160	5,418	5,691	6,020	6,415	6,698	6,861
Manufacturing	18,104	18,075	18,321	18,524	18,495	18,675	18,805	18,552	18,469	17,698
Service-producing	85,370	87,361	90,256	92,925	95,115	97,727	100,451	103,409	106,050	107,092
Transportation and public utilities	5,718	5,811	5,984	6,132	6,253	6,408	6,611	6,834	7,019	7,070
Wholesale trade	5,997	5,981	6,162	6,378	6,482	6,648	6,800	6,911	7,024	7,014
Retail trade	19,356	19,773	20,507	21,187	21,597	21,966	22,295	22,848	23,307	23,488
Finance, insurance, and real estate	6,602	6,757	6,896	6,806	6,911	7,109	7,389	7,555	7,560	7,624
Services	29,052	30,197	31,579	33,117	34,454	36,040	37,533	39,055	40,460	41,024
Government	18,645	18,841	19,128	19,305	19,419	19,557	19,823	20,206	20,681	20,873
Federal	2,969	2,915	2,870	2,822	2,757	2,699	2,686	2,669	2,777	2,616
State	4,408	4,488	4,576	4,635	4,606	4,582	4,612	4,709	4,785	4,880
Local	11,267	11,438	11,682	11,849	12,056	12,276	12,525	12,829	13,119	13,377

NOTE: See "Notes on the data" for a description of the most recent benchmark revision.

24. Annual data: Average hours and earnings of production or nonsupervisory workers on nonfarm payrolls, by industry

Industry	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Private sector:										
Average weekly hours	34.4	34.5	34.7	34.5	34.4	34.6	34.6	34.5	34.5	34.2
Average hourly earnings (in dollars)	10.57	10.83	11.12	11.43	11.82	12.28	12.78	13.24	13.75	14.33
Average weekly earnings (in dollars)	363.61	373.64	385.86	394.34	406.61	424.89	442.19	456.78	474.38	490.09
Mining:										
Average weekly hours	43.9	44.3	44.8	44.7	45.3	45.4	43.9	43.2	43.1	43.4
Average hourly earnings (in dollars)	14.54	14.60	14.88	15.30	15.62	16.15	16.91	17.05	17.24	17.65
Average weekly earnings (in dollars)	638.31	646.78	666.62	683.91	707.59	733.21	742.35	736.56	743.04	766.01
Construction:										
Average weekly hours	38.0	38.5	38.9	38.9	39.0	39.0	38.9	39.1	39.3	39.2
Average hourly earnings (in dollars)	14.15	14.38	14.73	15.09	15.47	16.04	16.61	17.19	17.88	18.33
Average weekly earnings (in dollars)	537.70	553.63	573.00	587.00	603.33	625.56	646.13	672.13	702.68	718.54
Manufacturing:										
Average weekly hours	41.0	41.4	42.0	41.6	41.6	42.0	41.7	41.7	41.6	40.7
Average hourly earnings (in dollars)	11.46	11.74	12.07	12.37	12.77	13.17	13.49	13.90	14.38	14.84
Average weekly earnings (in dollars)	469.86	486.04	506.94	514.59	531.23	553.14	562.53	579.63	598.21	603.99
Transportation and public utilities:										
Average weekly hours	38.3	39.3	39.7	39.4	39.6	39.7	39.5	38.7	38.6	38.1
Average hourly earnings (in dollars)	13.43	13.55	13.78	14.13	14.45	14.92	15.31	15.69	16.22	16.89
Average weekly earnings (in dollars)	514.37	532.52	547.07	556.72	572.22	592.32	604.75	607.20	626.09	643.51
Wholesale trade:										
Average weekly hours	38.2	38.2	38.4	38.3	38.3	38.4	38.3	38.3	38.5	38.2
Average hourly earnings (in dollars)	11.39	11.74	12.06	12.43	12.87	13.45	14.07	14.58	15.20	15.80
Average weekly earnings (in dollars)	435.10	448.47	463.10	476.07	492.92	516.48	538.88	558.80	585.20	603.56
Retail trade:										
Average weekly hours	28.8	28.8	28.9	28.8	28.8	28.9	29.0	29.0	28.9	28.8
Average hourly earnings (in dollars)	7.12	7.29	7.49	7.69	7.99	8.33	8.74	9.09	9.46	9.82
Average weekly earnings (in dollars)	205.06	209.95	216.46	221.47	230.11	240.74	253.46	263.61	273.39	282.82
Finance, insurance, and real estate:										
Average weekly hours	35.8	35.8	35.8	35.9	35.9	36.1	36.4	36.2	36.3	36.3
Average hourly earnings (in dollars)	10.82	11.35	11.83	12.32	12.80	13.34	14.07	14.62	15.07	15.83
Average weekly earnings (in dollars)	387.36	406.33	423.51	442.29	459.52	481.57	512.15	529.24	547.04	574.63
Services:										
Average weekly hours	32.5	32.5	32.5	32.4	32.4	32.6	32.6	32.6	32.7	32.7
Average hourly earnings (in dollars)	10.54	10.78	11.04	11.39	11.79	12.28	12.84	13.37	13.91	14.61
Average weekly earnings (in dollars)	342.55	350.35	358.80	369.04	382.00	400.33	418.58	435.86	454.86	477.75

25. Employment Cost Index, compensation,[1] by occupation and industry group

[June 1989 = 100]

Series	1999	2000				2001				Percent change	
	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	3 months ended	12 months ended
										Dec. 2001	
Civilian workers[2]	144.6	146.5	148.0	149.5	150.6	152.5	153.8	155.6	156.8	0.8	4.1
Workers, by occupational group:											
White-collar workers	146.3	148.4	149.9	151.5	152.5	154.4	156.0	157.7	158.9	.8	4.2
Professional specialty and technical	145.3	146.7	148.3	150.0	151.3	153.2	154.3	156.7	157.5	.5	4.1
Executive, administrative, and managerial	148.6	150.5	151.9	153.7	154.6	156.6	158.6	159.6	161.2	1.0	4.3
Administrative support, including clerical	146.1	148.6	150.1	151.8	152.8	155.3	156.8	158.8	160.0	.8	4.7
Blue-collar workers	140.6	142.7	144.1	145.6	146.5	148.2	149.3	151.1	152.0	.6	3.8
Service occupations	144.8	146.0	147.1	148.5	150.0	152.0	153.3	155.0	156.9	1.2	4.6
Workers, by industry division:											
Goods-producing	142.5	144.9	146.6	148.0	148.8	150.7	152.2	153.3	154.4	.8	3.8
Manufacturing	143.6	146.0	147.5	148.7	149.3	151.3	152.6	153.3	154.6	.8	3.5
Service-producing	145.3	147.1	148.4	150.1	151.1	153.0	155.4	156.4	157.6	.8	4.3
Services	146.5	148.0	149.3	151.2	152.4	154.3	155.4	158.1	159.0	.6	4.3
Health services	144.3	145.9	147.5	149.0	150.7	152.5	154.6	156.7	158.3	1.0	5.0
Hospitals	145.0	146.3	147.7	149.5	151.3	153.2	155.6	158.2	160.0	1.1	5.8
Educational services	145.8	146.5	146.8	149.7	150.6	151.7	152.2	156.1	156.6	.3	4.0
Public administration[3]	144.4	145.7	146.1	146.9	148.3	150.6	151.9	153.8	155.2	.9	4.7
Nonmanufacturing	144.7	146.6	148.0	149.6	150.7	152.6	154.0	156.0	157.2	.8	4.3
Private industry workers	144.6	146.8	148.5	149.9	150.9	153.0	154.5	155.9	157.2	.8	4.2
Excluding sales occupations	144.5	146.5	148.2	149.8	150.9	153.0	154.4	156.0	160.9	1.0	4.2
Workers, by occupational group:											
White-collar workers	146.9	149.3	151.1	152.6	153.6	155.7	157.4	158.7	160.1	.8	4.2
Excluding sales occupations	147.3	149.4	151.3	152.9	154.1	156.5	158.1	159.6	160.9	.8	4.4
Professional specialty and technical occupations	146.7	148.4	150.7	152.2	153.7	156.3	157.5	159.2	160.3	.7	4.3
Executive, administrative, and managerial occupations	149.1	151.1	152.7	154.4	155.3	157.3	159.4	160.2	161.8	1.0	4.2
Sales occupations	145.3	148.9	150.3	151.2	151.4	152.3	154.5	155.0	156.7	1.1	3.5
Administrative support occupations, including clerical	146.2	149.0	150.6	152.3	153.4	156.1	157.7	159.5	160.8	.8	4.8
Blue-collar workers	140.5	142.6	144.1	145.5	146.4	148.2	149.3	151.0	151.9	.6	3.8
Precision production, craft, and repair occupations	140.6	142.3	144.1	145.8	146.7	148.7	149.7	151.8	152.5	.5	4.0
Machine operators, assemblers, and inspectors	141.4	144.0	145.0	146.0	146.8	148.3	149.1	150.4	151.5	.7	3.2
Transportation and material moving occupations	135.2	137.5	138.6	139.9	141.1	142.6	143.9	145.6	146.3	.5	3.7
Handlers, equipment cleaners, helpers, and laborers	144.4	146.4	148.1	149.4	150.4	152.2	153.4	154.9	156.5	1.0	4.1
Service occupations	142.6	143.9	145.4	146.6	148.1	150.0	151.3	152.6	154.8	1.4	4.5
Production and nonsupervisory occupations[4]	143.1	145.3	146.9	148.4	149.5	151.4	152.7	154.3	155.5	.8	4.0
Workers, by industry division:											
Goods-producing	142.5	144.8	146.6	147.9	148.8	150.7	152.1	153.1	154.4	.8	3.8
Excluding sales occupations	141.8	144.2	145.9	147.2	148.2	150.1	151.5	152.5	153.7	.8	3.7
White-collar occupations	145.5	148.1	150.1	151.3	151.9	154.5	156.5	156.8	158.1	.8	4.1
Excluding sales occupations	143.9	146.5	148.4	149.6	150.5	153.0	155.0	155.3	156.5	.8	4.0
Blue-collar occupations	140.7	142.8	144.4	145.8	146.8	148.2	149.3	150.8	151.9	.7	3.5
Construction	138.7	140.8	143.2	145.1	146.7	148.2	150.3	151.7	153.0	.9	4.3
Manufacturing	143.6	146.0	147.5	148.7	149.3	151.3	152.6	152.2	154.6	.8	3.5
White-collar occupations	145.8	148.2	150.2	151.4	151.5	154.2	156.0	156.0	156.9	.6	3.6
Excluding sales occupations	143.8	146.2	148.2	149.3	149.7	152.2	154.0	153.8	154.5	.6	3.3
Blue-collar occupations	142.1	144.4	145.6	146.7	147.8	149.1	150.0	151.3	152.7	.9	3.3
Durables	144.0	146.5	148.3	149.4	150.1	151.8	153.1	154.0	155.3	.8	3.5
Nondurables	142.8	144.9	146.0	147.5	147.7	150.4	151.6	152.0	153.2	.8	3.7
Service-producing	145.3	147.4	149.1	150.6	151.7	153.8	155.3	156.9	158.2	.8	4.3
Excluding sales occupations	145.9	147.7	149.4	151.1	152.2	154.6	156.0	157.8	159.0	.8	4.5
White-collar occupations	147.0	149.3	151.0	152.6	153.7	155.8	157.4	159.0	160.3	.8	4.3
Excluding sales occupations	148.3	150.3	152.1	153.9	155.1	157.5	159.1	160.9	162.2	.8	4.6
Blue-collar occupations	139.8	141.8	143.1	144.5	145.3	147.7	148.7	150.9	151.0	.3	4.2
Service occupations	142.4	143.6	145.1	146.3	147.9	149.6	150.8	152.2	154.2	1.3	4.3
Transportation and public utilities	142.3	143.9	145.7	147.4	148.3	150.5	152.4	153.5	155.5	1.3	4.9
Transportation	139.5	140.4	141.8	142.8	143.9	145.4	146.9	148.2	151.1	2.0	5.0
Public utilities	146.1	148.6	150.9	153.5	154.1	157.3	159.8	160.7	161.5	.5	4.8
Communications	146.0	148.4	150.9	153.9	154.7	158.3	161.1	162.8	163.4	.4	5.6
Electric, gas, and sanitary services	146.1	148.9	151.0	152.9	153.4	156.0	158.1	158.1	159.1	.6	3.7
Wholesale and retail trade	143.5	145.6	147.3	148.3	149.4	151.0	152.6	153.7	155.5	1.2	4.1
Excluding sales occupations	144.3	146.4	148.1	149.6	150.6	152.6	153.9	155.4	–	–	–
Wholesale trade	148.5	150.0	151.8	152.1	154.4	155.1	157.8	158.6	159.5	.6	3.3
Excluding sales occupations	147.4	149.6	151.1	152.7	154.9	156.9	158.5	160.0	160.6	.4	3.7
Retail trade	140.7	143.2	144.8	146.2	146.6	148.7	149.7	150.9	153.2	1.5	4.5
General merchandise stores	138.3	139.7	141.0	142.2	144.4	147.3	149.4	149.7	150.9	.8	4.5
Food stores	138.1	140.1	142.5	143.4	144.5	146.1	148.2	149.7	151.7	1.3	5.0

See footnotes at end of table.

25. Continued—Employment Cost Index, compensation,[1] by occupation and industry group

[June 1989 = 100]

Series	1999	2000				2001				Percent change	
	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	3 months ended	12 months ended
										Dec. 2001	
Finance, insurance, and real estate	148.3	152.0	153.1	155.2	155.7	157.9	159.5	160.9	161.3	0.2	3.6
Excluding sales occupations	151.6	154.2	155.5	157.4	158.4	161.2	163.1	164.7	165.0	.2	4.2
Banking, savings and loan, and other credit agencies	159.8	162.7	164.2	165.8	166.5	170.8	172.7	175.4	174.5	–.6	4.7
Insurance	145.8	149.9	151.3	154.8	155.2	157.6	159.3	159.9	161.3	.9	3.9
Services	147.6	149.4	151.2	152.9	154.1	156.5	157.8	160.0	161.0	.6	4.5
Business services	151.9	154.2	156.3	157.5	158.4	160.5	163.0	165.2	166.2	.6	4.9
Health services	144.2	145.8	147.5	149.0	150.6	152.7	154.7	156.8	158.4	1.0	5.2
Hospitals	144.6	145.8	147.5	149.2	151.1	153.5	155.9	158.4	160.3	1.2	6.1
Educational services	153.0	154.0	154.9	158.8	159.9	162.3	162.6	166.4	167.6	.7	4.8
Colleges and universities	153.3	154.6	155.5	158.6	159.2	162.2	162.6	166.2	167.5	.8	5.2
Nonmanufacturing	144.5	146.7	148.4	150.0	151.1	153.1	154.7	156.3	157.6	.8	4.3
White-collar workers	146.9	149.2	151.0	152.6	153.7	155.8	157.5	159.0	160.5	.9	4.4
Excluding sales occupations	148.1	150.2	152.0	153.8	155.1	157.5	159.1	160.9	162.3	.9	4.6
Blue-collar occupations	138.7	140.6	142.3	143.9	144.8	146.9	148.1	150.2	150.6	.3	4.0
Service occupations	142.3	143.5	145.1	146.3	147.8	149.5	150.7	152.1	154.1	1.3	4.3
State and local government workers	144.6	145.5	145.9	147.8	148.9	150.3	151.2	154.3	155.2	.6	4.2
Workers, by occupational group:											
White-collar workers	144.0	144.9	145.3	147.3	148.3	149.5	150.4	153.7	154.4	.5	4.1
Professional specialty and technical	143.2	144.1	144.5	146.6	147.4	148.4	149.2	152.8	153.2	.3	3.9
Executive, administrative, and managerial	146.1	147.0	147.2	149.2	150.7	152.4	153.7	156.4	157.6	.8	4.6
Administrative support, including clerical	145.0	145.9	146.5	148.3	149.4	150.7	151.6	154.2	155.6	.9	4.1
Blue-collar workers	142.5	143.7	144.2	145.9	147.2	148.6	149.0	151.5	153.2	1.1	4.1
Workers, by industry division:											
Services	144.5	145.2	145.5	148.0	148.9	149.9	150.6	154.4	154.9	1.0	4.0
Services excluding schools[5]	143.8	145.2	145.8	147.6	148.8	150.1	151.9	154.5	156.1	.3	4.9
Health services	145.8	147.3	147.9	150.0	151.6	152.1	154.4	157.1	158.5	1.0	4.6
Hospitals	146.3	147.9	148.4	150.7	152.0	152.2	154.7	157.4	159.1	1.0	6.7
Educational services	144.4	145.0	145.2	147.9	148.7	149.6	150.1	154.1	154.5	1.1	4.2
Schools	144.7	145.3	145.5	148.2	149.0	149.9	150.5	154.4	154.8	.3	3.9
Elementary and secondary	144.1	144.5	144.7	147.3	148.1	148.5	149.0	152.8	153.1	.3	3.4
Colleges and universities	146.5	147.4	147.6	150.5	151.7	153.7	154.3	153.8	159.6	.4	5.2
Public administration[3]	144.4	145.7	146.1	146.9	148.3	150.6	151.9	151.9	155.2	.9	4.7

[1] Cost (cents per hour worked) measured in the Employment Cost Index consists of wages, salaries, and employer cost of employee benefits.

[2] Consists of private industry workers (excluding farm and household workers) and State and local government (excluding Federal Government) workers.

[3] Consists of legislative, judicial, administrative, and regulatory activities.

[4] This series has the same industry and occupational coverage as the Hourly Earnings index, which was discontinued in January 1989.

[5] Includes, for example, library, social, and health services.

26. Employment Cost Index, wages and salaries, by occupation and industry group

[June 1989 = 100]

Series	1999	2000				2001				Percent change	
	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	3 months ended	12 months ended
										Dec. 2001	
Civilian workers[1]	142.5	144.0	145.4	147.0	147.9	149.5	150.8	152.3	153.4	0.7	3.7
Workers, by occupational group:											
White-collar workers	144.6	146.2	147.6	149.2	150.2	151.7	153.1	154.5	155.6	.7	3.6
Professional specialty and technical	144.0	144.9	146.4	148.3	149.6	151.1	152.-	154.2	155.1	.6	3.7
Executive, administrative, and managerial	147.2	148.6	149.9	151.6	152.4	154.0	155.8	156.7	158.1	.9	3.7
Administrative support, including clerical	143.5	145.5	146.9	148.5	149.6	151.6	152,7	154.6	155.7	.7	4.1
Blue-collar workers	137.9	139.2	140.6	142.0	142.9	144.7	146.0	147.6	148.5	.6	3.9
Service occupations	141.7	143.0	144.0	145.7	147.1	148.6	149.7	151.2	153.0	1.2	4.0
Workers, by industry division:											
Goods-producing	139.7	141.3	143.0	144.3	145.3	147.0	147,6	149.5	150.5	.7	3.6
Manufacturing	141.5	142.9	144.4	145.7	146.5	148.5	150.0	150.7	151.7	.7	3.5
Service-producing	143.5	145.0	146.3	148.0	148.9	150.5	151.7	153.4	154.5	.7	3.6
Services	145.5	146.6	147.9	149.9	151.0	152.6	153.6	156.2	157.1	.6	4.0
Health services	142.5	143.8	145.3	146.7	148.3	149.8	151.8	153.7	155.5	1.2	4.9
Hospitals	141.6	142.6	143.8	145.6	147.3	148.8	151.2	15.5	155.5	1.3	5.6
Educational services	144.7	145.3	145.6	148.9	149.6	150.5	151.0	154.6	155.1	.3	3.7
Public administration[2]	141.5	142.5	142.9	144.6	146.1	147.6	148.7	150.3	151.6	.9	3.8
Nonmanufacturing	142.6	144.2	145.5	147.2	148.1	149.7	149.7	152.6	153.8	.8	3.8
Private industry workers	142.2	143.9	145.4	146.8	147.7	149.4	150.9	152.1	153.3	.8	3.8
Excluding sales occupations	142.0	143.5	145.1	146.5	147.6	149.5	150.8	152.2	153.3	.7	3.9
Workers, by occupational group:											
White-collar workers	144.8	146.6	148.3	149.7	150.6	152.3	153.8	154.8	156.1	.8	3.7
Excluding sales occupations	145.2	146.7	148.5	149.9	151.1	153.0	154.4	155.7	156.9	.8	3.8
Professional specialty and technical occupations	144.1	145.1	147.3	148.6	150.2	152.1	153.2	154.8	155.9	.7	3.8
Executive, administrative, and managerial occupations	147.6	149.2	150.7	152.3	153.0	154.7	156.5	157.2	158.6	.9	3.7
Sales occupations	143.3	146.7	147.9	149.0	148.7	149.2	151.5	151.2	152.6	.9	2.6
Administrative support occupations, including clerical	143.8	146.0	147.5	149.1	150.1	152.3	153.6	155.3	156.5	.8	4.3
Blue-collar workers	137.7	139.1	140.5	141.9	142.8	144.6	145.9	147.5	148.3	.5	3.9
Precision production, craft, and repair occupations	137.5	138.9	140.6	142.0	142.8	144.6	145.7	147.7	148,4	.5	3.9
Machine operators, assemblers, and inspectors	139.5	140.7	141.6	142.9	143.7	145.6	146.9	148.1	149.0	.6	3.7
Transportation and material moving occupations	132.7	134.1	135.2	136.5	137.6	139.5	140.7	142.1	142.8	.5	3.8
Handlers, equipment cleaners, helpers, and laborers	140.4	141.8	143.6	145.0	146.2	148.0	149.8	151.0	152.4	.9	4.2
Service occupations	139.6	141.0	142.5	143.5	144.9	146.4	147.5	148.7	150.6	1.3	3.9
Production and nonsupervisory occupations[3]	140.4	142.1	143.7	145.0	146.0	147.7	149.0	150.3	151.5	.8	3.8
Workers, by industry division:											
Goods-producing	139.7	141.3	143.0	144.3	145.2	147.0	148.6	149.5	150.5	.7	3.7
Excluding sales occupations	138.9	140.5	142.1	143.4	144.6	146.3	147.8	148.7	149.7	.7	3.5
White-collar occupations	143.0	145.0	146.8	147.9	148.7	150.5	152.3	152.6	153.6	.7	3.3
Excluding sales occupations	141.3	143.2	144.9	146.0	147.2	148.9	150.5	150.8	151.7	.6	3.1
Blue-collar occupations	137.6	139.0	140.5	142.0	143.1	144.7	146.1	147.4	148.4	.7	3.7
Construction	133.6	136.0	138.0	139.4	140.7	142.1	143.9	145.1	146.3	.8	4.0
Manufacturing	141.5	142.9	144.4	145.7	146.5	148.5	150.0	150.7	151.7	.7	3.5
White-collar occupations	144.0	145.8	147.7	148.7	149.2	151.1	152.7	152.8	153.3	.3	2.7
Excluding sales occupations	142.0	143.7	145.6	146.6	147.5	149.9	150.5	150.5	151.0	.3	2.4
Blue-collar occupations	139.7	140.8	142.0	143.4	144.6	146.4	147.8	149.1	150.3	.8	3.9
Durables	141.8	143.0	144.7	146.1	147.3	149.0	150.5	151.5	152.6	.7	3.6
Nondurables	140.9	142.7	143.9	145.0	145.4	147.5	149.0	149.3	150.2	.6	3.3
Service-producing	143.3	145.0	146.5	147.9	148.9	150.5	151.9	153.2	154.5	.8	3.8
Excluding sales occupations	143.8	145.3	146.9	148.3	149.4	151.3	152.6	154.2	155.5	.8	4.1
White-collar occupations	145.0	146.9	148.5	150.0	150.9	152.5	154.0	155.2	156.5	.8	3.7
Excluding sales occupations	146.4	147.8	149.6	151.2	152.3	154.3	155.6	157.2	158.6	.9	4.1
Blue-collar occupations	137.8	139.1	140.3	141.6	142.2	144.3	145.3	147.5	148.1	.4	4.1
Service occupations	139.6	141.1	142.5	143.5	144.8	146.1	147.2	148.4	150.2	1.2	3.7
Transportation and public utilities	137.9	138.5	140.0	141.3	142.3	143.7	145.7	146.7	149.2	1.7	4.8
Transportation	134.9	134.9	136.2	137.4	138.6	139.8	141.6	142.6	145.7	2.2	5.1
Public utilities	141.8	143.2	144.9	146.4	147.1	148.7	151.0	152.0	153.6	1.1	4.4
Communications	142.2	143.4	145.0	146.7	147.4	149.2	151.8	153.3	155.2	1.2	5.3
Electric, gas, and sanitary services	141.3	143.0	144.7	145.9	146.6	148.1	149.9	150.4	151.7	.9	3.5
Wholesale and retail trade	142.0	143.8	145.5	146.4	147.4	148.4	150.1	150.6	152.1	1.0	3.2
Excluding sales occupations	143.3	145.2	146.8	148.2	149.0	150.7	151.9	153.1	–	–	–
Wholesale trade	146.5	147.4	149.4	149.6	151.6	151.6	154.5	154.1	154.8	.5	2.1
Excluding sales occupations	146.4	147.9	149.7	151.3	153.2	154.9	156.5	157.4	157.9	.3	3.1
Retail trade	139.6	142.1	143.5	144.8	145.2	146.9	147.8	148.8	150.7	1.3	2.8
General merchandise stores	136.7	137.8	138.5	139.7	142.2	143.8	145.5	145.7	146.5	.5	3.0
Food stores	134.9	136.7	139.5	140.2	141.6	143.3	144.5	145.7	146.7	.7	3.6

See footnotes at end of table.

26. Continued—Employment Cost Index, wages and salaries, by occupation and industry group

[June 1989 = 100]

Series	1999	2000				2001				Percent change	
	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	3 months ended	12 months ended
										Dec. 2001	
Finance, insurance, and real estate	145.2	148.7	149.5	151.7	151.7	153.9	154.6	155.8	156.0	0.1	2.8
Excluding sales occupations	148.0	150.2	151.5	153.3	154.1	156.6	157.6	159.1	159.1	.0	3.2
Banking, savings and loan, and other credit agencies	159.6	162.0	163.3	165.0	165.7	169.4	170.8	173.2	171.7	–.9	3.6
Insurance	141.5	145.5	146.6	150.7	150.8	152.4	153.3	153.6	155.0	.9	2.8
Services	146.0	147.4	149.1	150.6	151.8	153.8	155.0	157.1	158.2	.7	4.2
Business services	149.8	152.0	154.1	155.3	156.0	158.2	160.8	162.8	163.7	.6	4.9
Health services	142.2	143.5	145.3	146.6	148.1	149.8	151.8	153.6	155.4	1.2	4.9
Hospitals	140.9	141.8	143.3	144.9	146.8	148.5	151.0	153.3	155.4	1.4	5.9
Educational services	148.2	148.9	149.6	153.4	154.3	155.4	156.1	159.6	160.5	.6	4.1
Colleges and universities	147.9	148.9	149.4	152.5	152.9	154.1	155.0	158.4	159.6	.8	4.4
Nonmanufacturing	142.1	143.9	145.5	146.9	147.9	149.5	150.9	152.2	153.5	.9	3.8
White-collar workers	144.7	146.5	148.2	149.6	150.6	152.3	153.8	155.0	156.4	.9	3.9
Excluding sales occupations	145.9	147.4	149.1	150.7	151.9	153.9	155.3	156.9	158.3	.9	4.2
Blue-collar occupations	135.8	137.4	138.9	140.3	140.9	142.8	143.9	145.8	146.4	.4	3.9
Service occupations	139.5	140.9	142.4	143.4	144.7	146.0	147.1	148.2	150.1	1.3	3.7
State and local government workers	143.5	144.3	144.7	147.2	148.3	150.2	151.2	154.3	155.2	.5	3.6
Workers, by occupational group:											
White-collar workers	143.4	144.1	144.5	147.1	148.0	149.0	149.8	152.7	153.3	.4	3.6
Professional specialty and technical	143.6	144.3	144.7	147.4	148.2	149.1	149.8	153.0	153.4	.3	3.5
Executive, administrative, and managerial	144.3	144.9	145.1	147.3	148.8	150.1	151.5	153.9	155.1	.8	4.2
Administrative support, including clerical	141.7	142.4	143.0	145.0	146.2	147.0	147.6	149.8	150.9	.7	3.2
Blue-collar workers	140.7	141.5	142.1	143.9	145.1	146.0	146.5	149.1	150.8	1.1	3.9
Workers, by industry division:											
Services	144.0	144.6	144.9	147.9	148.7	149.5	150.2	153.7	154.2	.3	3.7
Services excluding schools[4]	143.2	144.3	144.8	146.7	147.9	149.1	150.7	153.2	154.9	1.1	4.7
Health services	144.2	145.3	145.7	147.7	149.3	149.9	151.9	154.2	155.8	1.0	4.4
Hospitals	144.1	145.3	145.6	147.7	149.2	149.5	151.8	154.2	155.7	1.0	4.4
Educational services	144.0	144.5	144.8	148.0	148.7	149.5	150.0	153.6	154.0	.3	3.6
Schools	144.2	144.7	144.9	148.1	148.9	149.7	150.2	153.8	154.1	.2	3.5
Elementary and secondary	144.1	144.5	144.6	147.9	148.5	149.0	149.5	152.8	153.1	.2	3.1
Colleges and universities	144.4	144.9	145.6	148.3	149.5	151.4	151.8	156.5	156.7	.1	4.8
Public administration[2]	141.5	142.5	142.9	144.6	146.1	147.6	148.7	150.3	151.6	.9	3.8

[1] Consists of private industry workers (excluding farm and household workers) and State and local government (excluding Federal Government) workers.

[2] Consists of legislative, judicial, administrative, and regulatory activities.

[3] This series has the same industry and occupational coverage as the Hourly Earnings index, which was discontinued in January 1989.

[4] Includes, for example, library, social, and health services.

27. Employment Cost Index, benefits, private industry workers by occupation and industry group

[June 1989 = 100]

Series	1999	2000				2001				Percent change	
	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	3 months ended	12 months ended
										Dec.	
Private industry workers	150.2	153.8	155.7	157.5	158.6	161.5	163.2	165.2	166.7	0.9	5.1
Workers, by occupational group:											
White-collar workers	152.5	156.3	158.5	160.4	161.5	165.2	167.4	169.5	171.2	1.0	6.0
Blue-collar workers	146.2	150.0	151.6	153.1	154.1	155.7	156.7	158.3	159.2	.6	3.3
Workers, by industry division:											
Goods-producing	148.2	152.3	154.2	155.7	156.2	158.5	159.6	160.8	162.6	1.1	4.1
Service-producing	150.7	154.0	156.0	157.9	159.4	162.6	164.6	167.1	168.4	.8	5.6
Manufacturing	147.8	152.3	153.9	154.9	154.8	157.1	157.9	158.5	160.4	1.2	3.6
Nonmanufacturing	150.7	154.0	156.1	158.1	159.7	162.9	164.9	167.4	168.6	.8	5.7

28. Employment Cost Index, private nonfarm workers by bargaining status, region, and area size

[June 1989 = 100]

Series	1999	2000				2001				Percent change	
	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	3 months ended Dec. 2001	12 months ended Dec. 2001
COMPENSATION											
Workers, by bargaining status[1]											
Union	141.2	143.0	144.4	146.1	146.9	147.9	149.5	151.0	153.1	1.4	4.2
Goods-producing	140.8	143.3	144.8	146 8	147.3	147.9	149.3	150.6	151.6	.8	3.1
Service-producing	141.4	142.5	143.9	145.2	146.4	147.6	149.5	151.2	154.2	2.0	5.3
Manufacturing	141.0	144.5	145.4	147.1	147.4	147.9	148.8	149.9	151.4	1.0	2.7
Nonmanufacturing	140.8	141.7	143.4	145.0	146.2	147.3	149.4	151.1	153.5	1.6	5.0
Nonunion	145.2	147.4	149.1	150.6	151.6	153.8	155.3	156.7	157.8	.7	4.1
Goods-producing	143.1	145.4	147.2	148.4	149.3	151.6	153.1	154.0	155.3	.8	4.0
Service-producing	145.7	148.0	149.6	151.2	152.3	154.4	155.9	157.5	158.6	.7	4.1
Manufacturing	144.4	146.5	148.2	149.2	149.9	152.4	153.7	154.4	155.5	.7	3.7
Nonmanufacturing	145.1	147.4	149.1	150.7	151.8	153.9	155.4	157.0	158.2	.8	4.2
Workers, by region[1]											
Northeast	144.3	146.3	147.6	149.3	150.3	151.6	153.7	155.2	156.3	.7	4.0
South	143.0	145.0	146.7	147.6	148.6	151.1	152.3	153.5	154.6	.7	4.0
Midwest (formerly North Central)	146.3	148.9	150.7	152.2	153.3	154.8	156.0	157.4	158.6	.8	3.5
West	144.7	147.0	148.8	150.8	151.8	154.3	156.0	157.6	159.4	1.1	5.0
Workers, by area size[1]											
Metropolitan areas	144.7	146.9	148.6	150.1	151.0	153.1	154.6	156.0	157.4	.9	4.2
Other areas	143.6	146.0	147.7	148.8	150.3	152.1	153.7	154.8	155.6	.5	3.5
WAGES AND SALARIES											
Workers, by bargaining status[1]											
Union	136.5	137.2	138.5	140.0	141.2	142.1	143.7	145.1	147.4	1.6	4.4
Goods-producing	136.1	137.2	138.4	140.2	141.3	142.4	144.2	145.3	146.3	.7	3.5
Service-producing	137.2	137.6	138.9	140.1	141.5	142.2	143.7	145.4	148.9	2.4	5.2
Manufacturing	137.5	138.8	139.7	141.4	142.6	143.9	145.5	146.7	148.0	.9	3.8
Nonmanufacturing	135.9	136.4	137.8	139.2	140.4	141.1	142.7	144.3	147.1	1.9	4.8
Nonunion	143.3	145.1	146.7	148.1	149.0	150.8	152.2	153.4	154.4	.7	3.6
Goods-producing	141.1	142.9	144.7	145.8	146.8	148.8	150.3	151.1	152.1	.7	3.6
Service-producing	143.9	145.8	147.3	148.7	149.6	151.4	152.7	154.1	155.1	.6	3.7
Manufacturing	142.9	144.4	146.1	147.2	148.0	150.1	151.6	152.2	153.1	.6	3.4
Nonmanufacturing	143.0	145.0	146.6	148.0	148.9	150.7	152.0	153.3	154.4	.7	3.7
Workers, by region[1]											
Northeast	140.9	142.3	143.7	145.3	146.0	147.3	149.2	150.6	151.7	.7	3.9
South	141.5	143.0	144.6	145.3	146.3	148.3	149.3	150.2	151.2	.7	3.3
Midwest (formerly North Central)	143.6	145.3	147.1	148.6	149.6	150.9	152.3	153.6	154.7	.7	3.4
West	142.6	144.7	146.3	148.2	149.2	151.3	152.9	154.3	156.0	1.1	4.6
Workers, by area size[1]											
Metropolitan areas	142.5	144.1	145.7	147.1	148.0	149.8	151.2	152.4	153.7	.9	3.9
Other areas	140.2	142.2	143.7	144.7	146.0	147.4	148.8	149.7	150.5	.5	3.1

[1] The indexes are calculated differently from those for the occupation and industry groups. For a detailed description of the index calculation, see the *Monthly Labor Review* Technical Note, "Estimation procedures for the Employment Cost Index," May 1982.

29. Percent of full-time employees participating in employer-provided benefit plans, and in selected features within plans, medium and large private establishments, selected years, 1980–97

Item	1980	1982	1984	1986	1988	1989	1991	1993	1995	1997
Scope of survey (in 000's)	21,352	21,043	21,013	21,303	31,059	32,428	31,163	28,728	33,374	38,409
Number of employees (in 000's):										
With medical care	20,711	20,412	20,383	20,238	27,953	29,834	25,865	23,519	25,546	29,340
With life insurance	20,498	20,201	20,172	20,451	28,574	30,482	29,293	26,175	29,078	33,495
With defined benefit plan	17,936	17,676	17,231	16,190	19,567	20,430	18,386	16,015	17,417	19,202
Time-off plans										
Participants with:										
Paid lunch time	10	9	9	10	11	10	8	9	–	–
Average minutes per day	–	25	26	27	29	26	30	29	–	–
Paid rest time	75	76	73	72	72	71	67	68	–	–
Average minutes per day	–	25	26	26	26	26	28	26	–	–
Paid funeral leave	–	–	–	88	85	84	80	83	80	81
Average days per occurrence	–	–	–	3.2	3.2	3.3	3.3	3.0	3.3	3.7
Paid holidays	99	99	99	99	96	97	92	91	89	89
Average days per year	10.1	10.0	9.8	10.0	9.4	9.2	10.2	9.4	9.1	9.3
Paid personal leave	20	24	23	25	24	22	21	21	22	20
Average days per year	–	3.8	3.6	3.7	3.3	3.1	3.3	3.1	3.3	3.5
Paid vacations	100	99	99	100	98	97	96	97	96	95
Paid sick leave [1]	62	67	67	70	69	68	67	65	58	56
Unpaid maternity leave	–	–	–	–	33	37	37	60	–	
Unpaid paternity leave	–	–	–	–	16	18	26	53	–	–
Unpaid family leave	–	–	–	–	–	–	–	–	84	93
Insurance plans										
Participants in medical care plans	97	97	97	95	90	92	83	82	77	76
Percent of participants with coverage for:										
Home health care	–	–	46	66	76	75	81	86	78	85
Extended care facilities	58	62	62	70	79	80	80	82	73	78
Physical exam	–	–	8	18	28	28	30	42	56	63
Percent of participants with employee contribution required for:										
Self coverage	26	27	36	43	44	47	51	61	67	69
Average monthly contribution	–	–	$11.93	$12.80	$19.29	$25.31	$26.60	$31.55	$33.92	$39.14
Family coverage	46	51	58	63	64	66	69	76	78	80
Average monthly contribution	–	–	$35.93	$41.40	$60.07	$72.10	$96.97	$107.42	$118.33	$130.07
Participants in life insurance plans	96	96	96	96	92	94	94	91	87	87
Percent of participants with:										
Accidental death and dismemberment insurance	69	72	74	72	78	71	71	76	77	74
Survivor income benefits	–	–	–	10	8	7	6	5	7	6
Retiree protection available	–	64	64	59	49	42	44	41	37	33
Participants in long-term disability insurance plans	40	43	47	48	42	45	40	41	42	43
Participants in sickness and accident insurance plans	54	51	51	49	46	43	45	44	–	–
Participants in short-term disability plans [1]	–	–	–	–	–	–	–	–	53	55
Retirement plans										
Participants in defined benefit pension plans	84	84	82	76	63	63	59	56	52	50
Percent of participants with:										
Normal retirement prior to age 65	55	58	63	64	59	62	55	52	52	52
Early retirement available	98	97	97	98	98	97	98	95	96	95
Ad hoc pension increase in last 5 years	–	–	47	35	26	22	7	6	4	10
Terminal earnings formula	53	52	54	57	55	64	56	61	58	56
Benefit coordinated with Social Security	45	45	56	62	62	63	54	48	51	49
Participants in defined contribution plans	–	–	–	60	45	48	48	49	55	57
Participants in plans with tax-deferred savings arrangements	–	–	–	33	36	41	44	43	54	55
Other benefits										
Employees eligible for:										
Flexible benefits plans	–	–	–	2	5	9	10	12	12	13
Reimbursement accounts [2]	–	–	–	5	12	23	36	52	38	32
Premium conversion plans	–	–	–	–	–	–	–	–	5	7

[1] The definitions for paid sick leave and short-term disability (previously sickness and accident insurance) were changed for the 1995 survey. Paid sick leave now includes only plans that specify either a maximum number of days per year or unlimited days. Short-terms disability now includes all insured, self-insured, and State-mandated plans available on a per-disability basis, as well as the unfunded per-disability plans previously reported as sick leave. Sickness and accident insurance, reported in years prior to this survey, included only insured, self-insured, and State-mandated plans providing per-disability benefits at less than full pay.

[2] Prior to 1995, reimbursement accounts included premium conversion plans, which specifically allow medical plan participants to pay required plan premiums with pretax dollars. Also, reimbursement accounts that were part of flexible benefit plans were tabulated separately.

NOTE: Dash indicates data not available.

30. Percent of full-time employees participating in employer-provided benefit plans, and in selected features within plans, small private establishments and State and local governments, 1987, 1990, 1992, 1994, and 1996

Item	Small private establishments				State and local governments			
	1990	1992	1994	1996	1987	1990	1992	1994
Scope of survey (in 000's)	32,466	34,360	35,910	39,816	10,321	12,972	12,466	12,907
Number of employees (in 000's):								
With medical care	22,402	24,396	23,536	25,599	9,599	12,064	11,219	11,192
With life insurance	20,778	21,990	21,955	24,635	8,773	11,415	11,095	11,194
With defined benefit plan	6,493	7,559	5,480	5,883	9,599	11,675	10,845	11,708
Time-off plans								
Participants with:								
Paid lunch time	8	9	–	–	17	11	10	–
Average minutes per day	37	37	–	–	34	36	34	–
Paid rest time	48	49	–	–	58	56	53	–
Average minutes per day	27	26	–	–	29	29	29	–
Paid funeral leave	47	50	50	51	56	63	65	62
Average days per occurrence	2.9	3.0	3.1	3.0	3.7	3.7	3.7	3.7
Paid holidays	84	82	82	80	81	74	75	73
Average days per year[1]	9.5	9.2	7.5	7.6	10.9	13.6	14.2	11.5
Paid personal leave	11	12	13	14	38	39	38	38
Average days per year	2.8	2.6	2.6	3.0	2.7	2.9	2.9	3.0
Paid vacations	88	88	88	86	72	67	67	66
Paid sick leave [2]	47	53	50	50	97	95	95	94
Unpaid leave	17	18	–	–	57	51	59	–
Unpaid paternity leave	8	7	–	–	30	33	44	–
Unpaid family leave	–	–	47	48	–	–	–	93
Insurance plans								
Participants in medical care plans	69	71	66	64	93	93	90	87
Percent of participants with coverage for:								
Home health care	79	80	–	–	76	82	87	84
Extended care facilities	83	84	–	–	78	79	84	81
Physical exam	26	28	–	–	36	36	47	55
Percent of participants with employee contribution required for:								
Self coverage	42	47	52	52	35	38	43	47
Average monthly contribution	$25.13	$36.51	$40.97	$42.63	$15.74	$25.53	$28.97	$30.20
Family coverage	67	73	76	75	71	65	72	71
Average monthly contribution	$109.34	$150.54	$159.63	$181.53	$71.89	$117.59	$139.23	$149.70
Participants in life insurance plans	64	64	61	62	85	88	89	87
Percent of participants with:								
Accidental death and dismemberment insurance	78	76	79	77	67	67	74	64
Survivor income benefits	1	1	2	1	1	1	1	2
Retiree protection available	19	25	20	13	55	45	46	46
Participants in long-term disability insurance plans	19	23	20	22	31	27	28	30
Participants in sickness and accident insurance plans	6	26	26	–	14	21	22	21
Participants in short-term disability plans [2]	–	–	–	29	–	–	–	–
Retirement plans								
Participants in defined benefit pension plans	20	22	15	15	93	90	87	91
Percent of participants with:								
Normal retirement prior to age 65	54	50	–	47	92	89	92	92
Early retirement available	95	95	–	92	90	88	89	87
Ad hoc pension increase in last 5 years	7	4	–	–	33	16	10	13
Terminal earnings formula	58	54	–	53	100	100	100	99
Benefit coordinated with Social Security	49	46	–	44	18	8	10	49
Participants in defined contribution plans	31	33	34	38	9	9	9	9
Participants in plans with tax-deferred savings arrangements	17	24	23	28	28	45	45	24
Other benefits								
Employees eligible for:								
Flexible benefits plans	1	2	3	4	5	5	5	5
Reimbursement accounts [3]	8	14	19	12	5	31	50	64
Premium conversion plans	–	–	–	7	–	–	–	–

[1] Methods used to calculate the average number of paid holidays were revised in 1994 to count partial days more precisely. Average holidays for 1994 are not comparable with those reported in 1990 and 1992.

[2] The definitions for paid sick leave and short-term disability (previously sickness and accident insurance) were changed for the 1996 survey. Paid sick leave now includes only plans that specify either a maximum number of days per year or unlimited days. Short-term disability now includes all insured, self-insured, and State-mandated plans available on a per-disability basis, as well as the unfunded per-disability plans previously reported as sick leave. Sickness and accident insurance, reported in years prior to this survey, included only insured, self-insured, and State-mandated plans providing per-disability benefits at less than full pay.

[3] Prior to 1996, reimbursement accounts included premium conversion plans, which specifically allow medical plan participants to pay required plan premiums with pretax dollars. Also, reimbursement accounts that were part of flexible benefit plans were tabulated separately.

NOTE: Dash indicates data not available.

31. Work stoppages involving 1,000 workers or more

Measure	2000	2001	2000	2001										
			Dec.	Jan.[P]	Feb.[P]	Mar.[P]	Apr.[P]	May[P]	June[P]	July[P]	Aug.[P]	Sept.[P]	Oct.[P]	Nov.[P]	Dec.[P]
Number of stoppages:															
Beginning in period	39	29	0	1	1	3	4	7	3	2	3	2	1	0	2
In effect during period	40	30	3	2	1	4	5	8	5	3	4	3	4	1	2
Workers involved:															
Beginning in period (in thousands)	394	99	8.7	2.0	1.2	7.8	19.4	22.1	4.7	2.2	5.8	3.0	24.9	.0	6.0
In effect during period (in thousands)	397	102	10.3	4.7	1.2	9.0	20.7	23.4	9.0	3.3	6.9	4.1	29.0	1.6	6.0
Days idle:															
Number (in thousands)	20,419	1,151	58.9	37.1	3.6	33.4	230.5	201.6	73.2	62.1	71.5	55.7	316.4	11.2	55.0
Percent of estimated working time[1]	06	.00	(2)	(2)	(2)	(2)	.01	.01	(2)	(2)	(2)	(2)	.01	(2)	(2)

[1] Agricultural and government employees are included in the total employed and total working time; private household, forestry, and fishery employees are excluded. An explanation of the measurement of idleness as a percentage of the total time worked is found in " 'Total economy' measures of strike idleness," *Monthly Labor Review*, October 1968, pp. 54–56.

[2] Less than 0.005.

[P] = preliminary.

NOTE: Dash indicates data not available.

32. Consumer Price Indexes for All Urban Consumers and for Urban Wage Earners and Clerical Workers: U.S. city average, by expenditure category and commodity or service group

[1982–84 = 100, unless otherwise indicated]

Series	Annual average		2001											2002	
	2000	2001	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.
CONSUMER PRICE INDEX FOR ALL URBAN CONSUMERS															
All items	172.2	177.1	175.8	176.2	176.9	177.7	178.0	177.5	177.5	178.3	177.7	177.4	176.7	177.1	177.8
All items (1967 = 100)	515.8	530.4	526.7	528.0	529.9	532.2	533.3	531.6	531.8	534.0	532.2	531.3	5292.0	530.6	532.7
Food and beverages	168.4	173.6	171.8	172.2	172.4	172.9	173.4	174.0	174.4	174.6	175.3	175.2	175.2	176.2	176.4
Food	167.8	173.1	171.3	171.7	171.9	172.5	173.0	173.5	173.9	174.1	174.9	174.6	174.7	175.8	175.9
Food at home	167.9	173.4	171.8	172.0	172.2	172.8	173.3	173.9	174.2	174.3	175.2	174.7	174.7	176.2	176.0
Cereals and bakery products	188.3	193.8	191.9	191.9	192.5	193.2	194.2	194.9	195.9	195.1	195.2	194.9	195.3	196.7	197.6
Meats, poultry, fish, and eggs	154.5	161.3	159.5	160.1	160.7	160.8	161.7	162.3	162.4	162.4	163.5	162.7	162.0	162.1	161.8
Dairy and related products[1]	160.7	167.1	163.6	163.2	163.4	164.7	166.9	168.3	168.9	169.4	170.8	171.2	170.8	169.9	170.1
Fruits and vegetables	204.6	212.2	211.5	211.5	213.3	213.1	211.8	210.7	208.8	212.1	213.5	212.9	214.4	224.8	223.3
Nonalcoholic beverages and beverage materials	137.8	139.2	139.9	139.5	138.9	138.1	138.6	138.9	140.0	139.2	139.9	139.5	18.5	139.5	140.0
Other foods at home	155.6	159.6	157.9	158.6	157.6	159.6	159.5	160.4	161.0	160.2	160.9	160.3	160.9	161.3	160.4
Sugar and sweets	154.0	155.7	155.8	155.7	154.0	155.8	155.7	156.1	156.1	156.6	156.4	154.9	156.1	158.4	158.5
Fats and oils	147.4	155.7	152.6	153.1	151.5	154.7	156.7	157.8	158.5	158.5	159.5	155.6	156.9	158.3	157.2
Other foods	172.2	176.0	174.0	175.1	174.4	176.4	175.7	176.8	177.6	176.2	177.0	177.6	177.9	177.4	176.3
Other miscellaneous foods[1,2]	107.5	108.9	108.7	108.4	108.5	108.8	107.7	109.6	109.5	108.9	108.9	110.6	108.5	108.9	108.0
Food away from home[1]	169.0	173.9	171.8	172.3	172.7	173.1	173.6	174.1	174.7	175.1	175.6	175.8	176.0	176.4	177.0
Other food away from home[1,2]	109.0	113.4	111.4	111.6	111.8	112.4	112.6	113.8	114.3	115.3	115.4	115.5	115.5	115.5	115.8
Alcoholic beverages	174.7	179.3	177.7	177.8	178.1	178.5	179.1	179.7	180.0	180.4	180.8	181.2	180.9	181.8	182.6
Housing	169.6	176.4	174.7	175.4	175.4	175.9	177.3	177.6	178.0	177.4	176.7	176.9	176.9	177.6	178.5
Shelter	193.4	200.6	197.6	198.9	199.2	199.6	200.7	201.4	202.4	202.0	202.4	202.9	203.2	204.5	206.1
Rent of primary residence	183.9	192.1	188.9	189.6	190.2	191.0	191.6	192.3	193.1	193.9	194.7	195.5	196.4	197.0	197.7
Lodging away from home	117.5	118.6	119.1	124.2	121.8	120.0	123.7	124.0	125.2	116.8	114.5	111.6	108.0	113.1	119.3
Owners' equivalent rent of primary residence[3]	198.7	206.3	105.4	203.6	204.2	204.9	205.7	206.3	207.3	208.1	209.0	210.1	210.9	211.6	212.2
Tenants' and household insurance[1,2]	103.7	106.2	105.1	105.4	105.5	106.8	107.0	106.6	106.6	106.7	106.9	106.9	106.3	106.4	106.8
Fuels and utilities	137.9	150.2	152.3	150.8	149.7	151.3	155.7	154.8	152.7	150.6	144.6	143.5	142.2	141.5	140.0
Fuels	122.8	135.4	138.0	136.3	135.1	136.8	141.6	140.5	138.0	135.7	129.1	127.8	126.2	125.3	123.7
Fuel oil and other fuels	129.7	129.3	144.6	138.1	134.4	131.9	129.6	123.8	122.1	125.3	121.5	118.3	112.7	112.9	112.3
Gas (piped) and electricity	128.0	142.4	144.0	142.6	141.6	143.8	149.4	148.6	146.0	143.1	135.9	134.7	133.5	132.4	130.6
Household furnishings and operations	128.2	129.1	129.1	129.1	129.1	128.9	129.2	129.2	129.1	129.4	129.0	129.1	128.9	128.7	128.6
Apparel	129.6	127.3	128.4	132.2	131.9	129.8	126.3	122.6	122.6	126.8	129.5	128.0	123.7	120.4	123.5
Men's and boys' apparel	129.7	125.7	126.6	127.5	128.2	129.1	125.8	122.5	121.4	123.7	127.5	127.4	122.8	120.8	122.0
Women's and girls' apparel	121.5	119.3	121.0	127.8	127.0	122.3	117.5	111.6	112.1	120.3	122.1	119.4	114.8	109.7	115.3
Infants' and toddlers' apparel[1]	130.6	129.2	129.3	1316.0	131.4	130.6	127.3	124.5	126.3	129.3	131.5	132.4	128.5	125.0	127.2
Footwear	123.8	123.0	122.6	125.2	124.9	124.4	122.1	121.3	121.9	122.9	124.9	123.7	120.6	117.1	119.5
Transportation	153.3	154.3	154.9	153.9	156.1	159.2	158.3	154.4	153.3	155.5	152.3	150.2	148.5	148.6	148.4
Private transportation	149.1	150.0	150.7	149.7	152.1	155.3	154.0	149.9	148.8	151.2	148.1	146.1	144.3	144.4	144.1
New and used motor vehicles[2]	100.8	101.3	102.2	101.9	101.8	101.4	101.1	100.8	100.5	100.2	100.6	101.3	101.6	101.0	100.1
New vehicles	142.8	142.1	143.3	142.8	142.7	142.3	141.7	141.2	140.3	140.2	141.0	142.6	143.5	142.7	141.2
Used cars and trucks[1]	155.8	158.7	160.4	159.9	159.7	159.1	158.9	158.3	158.0	157.3	157.8	157.4	157.2	155.6	153.9
Motor fuel	129.3	124.7	127.5	124.1	133.6	146.8	142.0	125.6	121.9	131.4	116.3	104.5	96.1	97.9	98.2
Gasoline (all types)	128.6	124.0	126.8	123.3	132.8	146.0	141.3	124.9	121.2	130.7	115.6	103.8	95.4	97.2	97.6
Motor vehicle parts and equipment	101.5	104.8	104.0	104.7	104.2	104.4	104.4	105.1	104.9	105.2	105.5	105.8	105.8	106.2	106.1
Motor vehicle maintenance and repair	177.3	183.5	181.5	181.7	181.9	182.5	182.7	183.4	184.0	185.1	186.0	186.4	186.4	187.1	188.0
Public transportation	209.6	210.6	212.1	210.0	208.3	209.3	216.3	216.1	213.7	212.7	209.1	205.1	204.8	205.8	207.3
Medical care	260.8	272.8	268.9	270.0	270.8	271.4	272.5	273.1	274.4	275.0	275.9	276.7	277.3	279.6	281.0
Medical care commodities	238.1	247.6	243.8	244.9	245.7	246.6	248.1	248.5	249.1	249.6	250.2	250.6	251.6	252.6	253.7
Medical care services	266.0	278.8	274.9	275.9	276.8	277.3	278.3	278.9	280.5	281.0	282.0	283.0	283.5	286.2	287.7
Professional services	237.7	246.5	244.1	244.8	245.6	245.8	246.5	246.8	247.7	247.9	248.4	248.8	248.9	250.6	251.4
Hospital and related services	317.3	338.3	331.0	332.8	333.6	335.1	336.6	337.9	341.2	342.6	344.8	347.1	348.3	353.1	356.4
Recreation[2]	103.3	104.9	104.3	104.3	105.0	105.0	104.8	105.0	105.1	105.2	105.3	105.5	105.3	105.7	105.9
Video and audio[1,2]	101.0	101.5	101.6	101.6	101.7	101.6	101.3	101.7	101.7	101.3	101.3	101.4	101.2	102.1	102.9
Education and communication[2]	102.5	105.2	104.0	104.3	104.1	104.0	104.4	104.8	105.8	106.6	107.1	107.0	106.9	107.2	107.3
Education[2]	112.5	118.5	116.0	116.1	116.1	116.4	116.9	117.2	119.5	121.7	122.2	122.3	122.0	122.6	123.2
Educational books and supplies	279.9	295.9	290.4	290.8	290.8	290.7	293.9	295.1	298.0	305.4	307.2	304.7	294.7	303.0	314.4
Tuition, other school fees, and child care	324.0	341.1	333.7	334.0	334.1	335.0	336.2	337.2	343.9	350.0	351.5	352.0	352.2	353.2	353.9
Communication[1,2]	93.6	93.3	93.2	93.7	93.3	92.9	93.1	93.6	93.5	93.1	93.6	93.3	93.4	93.4	93.1
Information and information processing[1,2]	92.8	92.3	92.2	92.7	92.3	91.8	92.1	92.5	92.4	92.0	92.5	92.2	92.3	92.2	92.0
Telephone services[1,2]	98.5	99.3	98.7	99.4	99.0	98.7	99.0	99.6	99.6	99.2	99.9	99.6	99.6	100.3	100.3
Information and information processing other than telephone services[1,4]	25.9	21.3	22.9	22.5	22.1	21.7	21.4	21.3	20.7	20.3	20.2	20.0	19.8	19.4	19.0
Personal computers and peripheral equipment[1,2]	41.1	29.5	33.9	32.4	31.7	30.4	29.8	29.3	27.8	26.7	26.4	25.8	25.3	24.6	23.8
Other goods and services	271.1	282.6	277.2	277.7	277.7	281.3	281.2	285.8	283.3	287.8	285.6	289.2	286.4	287.2	290.2
Tobacco and smoking products	394.9	425.2	408.5	407.7	424.2	418.7	421.0	441.2	424.6	444.0	429.9	446.7	431.7	432.8	449.3
Personal care[1]	165.6	170.5	168.6	169.1	169.6	169.5	170.0	170.7	171.2	171.9	172.3	172.6	172.6	173.2	173.7
Personal care products[1]	153.7	155.1	155.3	155.7	155.8	153.2	154.6	155.1	154.7	155.5	155.4	155.4	155.4	155.2	155.5
Personal care services[1]	178.1	184.3	181.9	182.2	183.4	184.1	184.1	184.8	185.2	185.5	185.9	186.8	186.4	186.3	186.4

See footnotes at end of table.

32. Continued—Consumer Price Indexes for All Urban Consumers and for Urban Wage Earners and Clerical Workers: U.S. city average, by expenditure category and commodity or service group

[1982–84 = 100, unless otherwise indicated]

Series	Annual average		2001											2002	
	2000	2001	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.
Miscellaneous personal services	252.3	263.1	258.6	259.5	260.2	261.0	261.8	263.2	265.5	266.4	267.3	268.0	268.5	270.4	271.8
Commodity and service group:															
Commodities	149.2	150.7	150.6	150.7	151.9	152.9	152.1	150.4	149.8	151.5	150.5	149.5	147.9	147.8	148.1
Food and beverages	168.4	173.6	171.8	172.2	172.4	172.9	173.4	174.0	174.4	174.6	175.3	175.2	175.2	176.2	176.4
Commodities less food and beverages	137.7	137.2	138.1	138.0	139.7	140.8	139.4	136.5	135.4	138.0	136.1	134.6	132.3	131.6	132.1
Nondurables less food and beverages	147.4	147.1	147.7	147.9	151.0	153.5	151.3	146.3	144.8	149.6	146.0	142.8	138.4	137.9	139.6
Apparel	129.6	127.3	128.4	132.2	131.9	129.8	126.3	122.6	122.6	126.8	129.5	128.0	123.7	120.4	123.5
Nondurables less food, beverages, and apparel	162.5	163.4	163.7	161.9	167.0	172.0	170.4	164.5	162.1	167.5	160.4	156.2	151.6	152.6	153.6
Durables	125.4	124.6	125.9	125.5	125.4	124.9	124.5	124.2	123.6	123.4	123.6	124.2	124.3	123.6	122.7
Services	195.3	203.4	201.0	201.8	201.9	202.5	204.0	204.5	205.2	204.9	204.7	205.1	205.3	206.3	207.3
Rent of shelter[3]	201.3	208.9	205.7	207.2	207.4	207.8	209.0	209.7	210.8	210.3	210.8	211.3	211.7	213.0	214.7
Transportation services	196.1	201.9	200.3	200.2	200.1	200.4	202.0	202.6	202.7	202.8	203.4	204.2	204.5	205.2	206.5
Other services	229.9	238.0	234.8	235.4	236.2	236.4	236.7	237.7	239.4	240.6	241.4	241.9	241.9	242.9	243.5
Special indexes:															
All items less food	173.0	177.8	176.6	177.1	177.8	178.6	179.0	178.2	178.2	179.0	178.2	177.8	177.0	177.4	178.2
All items less shelter	165.7	169.7	169.1	169.2	170.1	170.9	171.0	170.0	169.7	170.9	169.9	169.3	168.2	168.4	168.7
All items less medical care	167.3	171.9	170.8	171.2	171.8	172.6	172.9	172.3	172.3	173.0	172.4	172.0	171.3	171.7	172.4
Commodities less food	139.2	138.9	139.7	139.6	141.2	142.4	141.0	138.2	137.2	139.7	137.8	136.4	134.1	133.5	133.9
Nondurables less food	149.1	149.1	149.6	149.8	152.8	155.1	153.1	148.3	146.9	151.5	148.1	145.1	140.9	140.5	142.2
Nondurables less food and apparel	162.9	164.1	164.3	162.7	167.4	172.0	170.6	165.2	163.0	168.0	161.5	157.7	153.4	154.5	155.4
Nondurables	158.2	160.6	160.0	160.3	162.0	163.6	162.7	160.3	159.7	162.3	160.8	159.1	156.8	157.0	158.0
Services less rent of shelter[3]	202.9	212.3	210.5	210.6	210.6	211.4	213.3	213.7	214.0	213.9	213.0	213.3	213.2	213.9	214.3
Services less medical care services	188.9	196.6	194.3	195.1	195.2	195.7	197.2	197.8	198.4	198.1	197.8	198.2	198.3	199.2	200.2
Energy	124.6	129.3	132.0	129.5	133.1	140.1	140.5	132.4	129.4	132.5	122.1	116.0	111.4	111.7	111.0
All items less energy	178.6	183.5	181.8	182.6	182.9	182.9	183.3	183.6	184.1	184.5	185.1	185.4	185.2	185.7	186.5
All items less food and energy	181.3	186.1	184.4	185.3	185.6	185.5	185.9	186.2	186.6	187.1	187.6	188.1	187.8	188.2	189.2
Commodities less food and energy	144.9	145.3	145.9	146.2	146.6	145.7	144.9	144.4	143.8	145.2	145.6	146.0	144.7	143.7	144.2
Energy commodities	129.5	125.2	129.1	125.4	133.8	145.6	141.1	125.6	122.0	131.0	116.9	105.8	97.6	99.3	99.5
Services less energy	202.1	209.6	206.8	207.7	208.0	208.4	209.4	210.1	211.2	211.2	211.7	212.3	212.6	213.8	215.1
CONSUMER PRICE INDEX FOR URBAN WAGE EARNERS AND CLERICAL WORKERS															
All items	163.2	173.5	172.4	172.6	173.5	174.4	174.6	173.8	173.8	174.8	174.0	173.7	172.9	173.2	173.7
All items 1967 = 100	486.2	516.8	513.4	514.2	516.7	519.4	520.0	517.8	517.6	520.6	518.3	517.3	515.0	515.0	517.5
Food and beverages	163.8	173.0	171.2	171.6	171.9	172.3	172.8	173.4	173.8	174.0	174.8	174.5	174.6	175.7	175.8
Food	163.4	172.5	170.8	171.1	171.4	171.9	172.4	173.0	173.4	173.5	174.3	174.1	174.1	175.2	175.3
Food at home	163.0	172.4	170.8	171.1	171.3	171.8	172.4	173.0	173.3	173.4	174.3	173.7	173.7	175.3	175.1
Cereals and bakery products	184.7	193.6	191.7	191.7	192.2	192.9	193.9	194.5	195.6	194.8	195.1	194.7	195.1	196.7	197.5
Meats, poultry, fish, and eggs	147.6	161.2	159.2	160.0	160.7	160.6	161.4	162.1	162.0	162.3	163.2	162.6	161.8	162.0	161.6
Dairy and related products[1]	159.4	167.1	163.5	163.1	163.5	164.7	166.9	168.3	168.9	169.4	170.8	171.2	170.6	169.7	170.0
Fruits and vegetables	201.8	210.8	210.1	209.8	211.7	211.5	210.5	209.5	208.0	211.0	212.2	211.5	212.8	223.2	222.2
Nonalcoholic beverages and beverage materials	133.2	138.4	139.3	138.8	138.2	137.2	137.8	138.0	139.3	138.4	139.2	138.7	137.7	138.8	139.5
Other foods at home	152.8	159.1	157.3	158.2	157.1	159.1	159.1	160.0	160.5	159.8	160.4	159.7	160.5	161.0	160.1
Sugar and sweets	152.2	155.6	155.6	155.6	153.7	155.8	155.5	156.0	156.1	156.2	156.2	154.7	155.9	158.5	158.5
Fats and oils	147.9	155.4	152.4	153.0	151.4	154.3	156.4	157.4	158.0	158.1	159.1	155.1	156.5	158.0	157.0
Other foods	168.8	176.3	174.1	175.4	174.6	176.5	176.0	177.2	177.9	176.5	177.3	177.8	178.3	177.9	176.8
Other miscellaneous foods[1,2]	104.6	109.1	108.5	108.5	108.4	108.7	108.0	109.9	109.7	109.2	109.5	110.8	109.0	109.3	108.5
Food away from home[1]	165.0	173.8	171.8	172.3	172.7	173.1	173.5	174.0	174.7	175.0	175.6	175.8	176.0	176.4	176.9
Other food away from home[1,2]	105.1	113.6	111.6	111.8	112.0	112.5	112.8	114.0	114.4	115.6	115.7	115.8	115.8	115.8	116.0
Alcoholic beverages	168.8	178.8	177.0	177.2	177.6	178.0	178.4	179.2	179.7	180.1	180.5	180.8	180.5	181.4	182.1
Housing	160.0	172.1	170.5	171.0	171.0	171.7	173.0	173.3	173.5	173.2	172.5	172.8	172.9	173.4	173.9
Shelter	181.6	194.5	191.5	192.6	192.9	193.5	194.4	195.0	195.9	196.0	196.6	197.2	197.7	198.7	199.8
Rent of primary residence	177.1	191.5	188.3	189.0	189.6	190.4	191.0	191.7	192.4	193.3	194.0	194.9	195.7	196.3	197.0
Lodging away from home[2]	122.2	118.4	118.5	123.8	121.2	119.9	123.2	123.7	124.4	116.8	114.8	111.8	108.8	113.2	119.4
Owners' equivalent rent of primary residence[3]	175.7	187.6	184.5	185.2	185.7	186.3	187.0	187.5	188.5	189.2	190.0	190.9	191.7	192.3	192.9
Tenants' and household insurance[1,2]	101.6	106.4	105.3	105.6	105.8	106.9	107.2	106.7	106.8	106.8	107.0	107.1	106.3	106.4	106.8
Fuels and utilities	128.7	149.5	151.5	149.9	148.8	150.8	155.2	154.4	152.2	150.1	144.0	142.8	141.5	140.8	139.4
Fuels	113.0	134.2	136.6	134.8	133.6	135.7	140.5	139.5	137.0	134.7	127.9	126.7	125.2	124.2	122.7
Fuel oil and other fuels	91.7	129.2	145.0	138.0	133.9	131.5	129.2	123.1	121.5	125.3	121.4	118.5	112.7	113.0	112.4
Gas (piped) and electricity	120.4	141.5	143/0	141.5	140.4	142.9	148.5	147.8	145.2	142.2	135.0	133.7	132.5	131.4	129.7
Household furnishings and operations	124.7	125.8	125.9	125.9	126.0	125.7	125.9	125.8	125.7	126.0	125.5	125.6	125.4	125.0	124.9
Apparel	130.1	126.1	127.0	130.6	130.5	128.5	125.2	121.9	121.6	125.6	128.3	127.2	123.0	119.6	122.4
Men's and boys' apparel	131.2	125.8	126.9	127.6	128.3	129.2	126.3	122.9	121.6	123.7	127.3	127.3	122.7	121.0	122.2
Women's and girls' apparel	121.3	117.3	118.4	125.2	124.7	120.2	115.6	110.2	110.1	118.3	120.2	118.0	113.5	108.5	113.8
Infants' and toddlers' apparel[1]	130.3	130.9	131.0	133.3	133.2	132.0	128.6	126.2	128.3	131.1	133.5	134.3	130.3	126.7	128.4
Footwear	126.2	123.1	122.4	125.2	125.2	124.5	122.1	121.4	122.0	123.0	124.9	124.2	121.0	117.7	119.3
Transportation	143.4	153.6	154.5	153.3	155.8	159.2	157.9	153.4	152.5	155.1	151.4	149.2	147.4	147.5	147.1
Private transportation	140.7	150.8	151.7	150.5	153.2	156.6	155.1	150.4	149.5	152.3	148.6	146.4	144.5	144.6	144.2
New and used motor vehicles[2]	100.4	101.9	102.8	102.5	102.4	102.0	101.7	101.4	101.0	100.7	101.1	101.7	102.0	101.3	100.3

See footnotes at end of table.

32. Continued—Consumer Price Indexes for All Urban Consumers and for Urban Wage Earners and Clerical Workers: U.S. city average, by expenditure category and commodity or service group

[1982–84 = 100, unless otherwise indicated]

Series	Annual average		2001											2002	
	2000	2001	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.
New vehicles	143.9	143.2	144.5	143.8	143.8	143.4	142.7	142.3	141.4	141.3	142.1	143.8	144.7	143.8	142.3
Used cars and trucks[1]	157.1	159.8	161.7	161.1	160.9	160.2	160.0	159.3	159.0	158.2	158.7	158.3	158.1	156.5	154.8
Motor fuel	129.5	124.9	127.8	124.1	134.0	147.4	142.1	124.9	122.0	132.4	116.2	104.4	96.3	98.2	98.5
Gasoline (all types)	128.8	124.2	127.1	123.4	133.3	146.7	141.1	124.2	121.3	131.7	115.5	103.8	95.7	97.6	97.9
Motor vehicle parts and equipment	100.9	104.0	103.4	104.0	103.5	103.6	103.6	104.3	104.1	104.4	104.7	105.0	104.9	105.3	105.3
Motor vehicle maintenance and repair	178.8	185.1	183.1	183.3	183.4	184.1	184.4	185.0	185.6	186.7	187.5	187.8	187.9	188.6	189.5
Public transportation	203.4	204.9	205.8	204.2	202.7	203.5	209.5	209.5	207.7	207.0	203.7	200.4	200.1	201.0	202.5
Medical care	259.9	271.8	268.1	269.1	269.9	270.4	271.5	272.0	273.4	273.9	274.9	275.6	276.2	278.5	279.8
Medical care commodities	233.6	242.7	239.1	240.2	241.0	241.7	243.2	243.6	244.1	244.6	245.2	245.6	246.7	247.6	248.5
Medical care services	265.9	278.5	274.7	275.7	276.5	277.0	278.0	278.5	280.2	280.7	281.7	282.6	283.0	285.7	287.2
Professional services	239.6	248.7	246.4	247.0	247.8	248.0	248.7	249.0	249.9	250.1	250.5	250.9	251.0	252.8	253.6
Hospital and related services	313.2	333.8	326.6	328.3	329.1	330.6	332.0	333.5	337.0	338.3	340.5	342.7	343.6	348.2	351.4
Recreation[2]	102.4	103.6	103.1	103.0	103.7	103.7	103.5	103.7	103.9	103.8	103.8	104.0	103.8	104.2	104.5
Video and audio[1,2]	100.7	100.9	101.2	101.0	101.2	101.1	100.7	101.1	101.0	100.6	100.6	100.7	100.5	101.4	102.2
Education and communication[2]	102.7	105.3	104.1	104.4	104.2	104.1	104.5	104.9	105.8	106.5	107.1	106.9	106.9	107.1	107.2
Education[2]	112.8	118.7	116.2	116.3	116.4	116.7	117.2	117.6	119.6	121.7	122.3	122.3	122.1	122.7	123.3
Educational books and supplies	283.3	299.9	294.1	294.7	294.7	294.5	298.2	299.3	302.2	309.8	311.7	308.9	297.3	305.2	315.2
Tuition, other school fees, and child care	318.2	334.7	327.4	327.9	328.2	329.1	330.3	331.3	337.3	342.9	344.4	344.9	345.2	346.2	347.0
Communication[1,2]	94.6	94.5	94.4	94.8	94.4	94.0	94.3	94.8	94.7	94.3	94.9	94.5	94.6	94.7	94.5
Information and information processing[1,2]	94.1	93.8	93.7	94.1	93.8	93.4	93.6	94.0	94.0	93.6	94.2	93.8	93.9	94.0	93.7
Telephone services[1,2]	98.7	99.4	98.9	99.5	99.2	98.8	99.2	99.7	99.8	99.4	100.1	99.7	99.9	100.4	100.5
Information and information processing other than telephone services[1,4]	26.8	22.1	23.8	23.3	22.8	22.4	22.2	22.0	21.5	21.2	21.0	20.8	20.6	20.1	19.7
Personal computers and peripheral equipment[1,2]	40.5	29.1	33.4	31.8	31.1	29.9	29.4	28.7	27.4	26.6	26.1	25.5	25.0	24.3	23.5
Other goods and services	276.5	289.5	283.2	283.5	288.2	286.8	287.9	293.8	290.0	295.5	292.4	297.3	293.3	294.0	298.3
Tobacco and smoking products	395.2	426.1	409.2	408.5	424.8	419.8	421.6	441.9	425.6	444.7	430.9	448.3	432.9	433.5	450.7
Personal care[1]	165.5	170.3	168.5	169.0	169.4	169.3	169.9	170.6	170.9	171.4	171.9	172.3	172.3	172.7	173.2
Personal care products[1]	154.2	155.7	155.7	155.9	156.0	153.8	155.4	155.9	155.5	156.1	156.1	156.1	156.0	155.9	156.3
Personal care services[1]	178.6	184.9	182.4	182.8	183.9	184.7	184.8	185.4	185.9	186.1	186.5	187.4	187.1	187.0	187.1
Miscellaneous personal services	251.9	262.8	258.4	258.3	260.0	260.7	261.6	263.2	264.9	265.6	266.8	267.5	268.0	269.8	271.4
Commodity and service group:															
Commodities	149.8	151.4	151.4	151.4	152.8	153.9	153.0	151.2	150.5	152.5	151.2	150.1	148.4	148.3	148.6
Food and beverages	167.7	173.0	171.2	171.6	171.9	172.3	172.8	173.4	173.8	174.0	174.8	174.5	174.6	175.7	175 8
Commodities less food and beverages	139.0	138.7	139.5	139.3	141.2	142.6	141.1	138.0	136.9	139.8	137.4	135.9	133.4	132.7	133.1
Nondurables less food and beverages	149.1	149.0	149.4	149.3	153.1	156.2	153.6	148.2	146.5	152.0	147.4	144.2	139.4	138.9	140.7
Apparel	128.3	126.1	127.0	130.6	130.5	128.5	125.2	121.9	121.6	125.6	128.3	127.2	123.0	119.6	122.4
Nondurables less food, beverages, and apparel	165.3	166.3	166.5	164.4	170.5	176.3	174.1	167.3	164.8	171.4	162.7	158.2	153.1	154.2	155.4
Durables	125.8	125.3	126.6	126.2	126.0	125.5	125.2	124.8	124.3	124.1	124.3	124.8	124.9	124.1	123.1
Services	191.6	199.6	197.2	197.8	198.0	198.7	200.1	200.6	201.2	201.1	201.0	201.4	201.7	202.5	203.3
Rent of shelter[3]	180.5	187.3	184.4	185.5	185.8	186.3	187.2	187.8	188.7	188.7	189.3	189.9	190.4	191.4	192.5
Transporatation services	192.9	199.1	197.2	197.2	197.2	197.6	198.9	199.5	199.8	200.1	200.9	202.3	202.6	203.4	204.7
Other services	225.9	233.7	230.6	231.2	231.9	232.2	232.6	233.6	235.1	235.9	236.8	237.2	237.3	238.3	239.0
Special indexes:															
All items less food	169.1	173.6	172.5	172.8	173.8	174.7	174.9	173.9	173.7	174.9	173.8	173.4	172.5	172.7	173.3
All items less shelter	163.8	167.6	167.0	167.0	168.0	169.1	169.0	167.8	167.5	168.8	167.6	166.9	165.7	165.8	166.1
All items less medical care	164.7	169.1	168.0	168.2	169.1	170.0	170.2	169.4	169.3	170.3	169.5	169.1	168.3	168.5	169.0
Commodities less food	140.4	140.2	141.0	140.8	142.7	144.1	142.6	139.6	138.5	141.3	139.0	137.6	135.1	134.5	134.8
Nondurables less food	150.7	150.8	151.1	151.1	154.7	157.6	155.3	150.1	148.5	153.8	149.4	146.4	141.8	141.8	143.1
Nondurables less food and apparel	165.4	166.7	166.8	164.9	170.5	175.9	173.9	167.7	165.4	171.5	163.5	159.5	154.7	154.7	157.0
Nondurables	158.9	161.4	160.8	160.9	163.0	164.8	163.8	161.2	160.5	163.5	161.5	159.7	157.3	157.5	158.5
Services less rent of shelter[3]	180.1	188.5	186.9	187.0	187.0	187.8	189.6	189.9	190.1	189.9	189.0	189.3	189.2	189.8	190.1
Services less medical care services	185.4	193.1	190.8	191.4	191.6	192.3	193.6	194.2	194.7	194.6	194.4	194.8	195.0	195.7	196.5
Energy	124.8	128.7	131.3	128.6	132.9	140.6	140.3	131.3	128.6	132.6	121.2	114.8	110.0	110.5	109.8
All items less energy	175.1	179.8	178.2	178.8	179.2	179.2	179.5	179.8	180.1	180.7	181.3	181.8	181.5	181.6	182.5
All items less food and energy	177.1	181.7	180.1	180.9	181.3	181.2	181.4	181.7	181.9	182.6	183.2	183.8	183.5	183.6	184.4
Commodities less food and energy	145.4	146.1	146.2	146.8	147.3	146.4	145.6	145.4	144.6	146.0	146.3	146.9	145.6	144.4	144.8
Energy commodities	129.7	125.3	129.1	125.1	134.2	146.6	141.5	125.0	122.1	132.1	116.7	105.5	97.5	99.2	99.5
Services less energy	198.7	206.0	203.1	204.0	204.4	204.8	205.7	206.3	207.3	207.6	208.3	209.0	209.4	210.4	211.5

[1] Not seasonally adjusted.

[2] Indexes on a December 1997 = 100 base.

[3] Indexes on a December 1982 = 100 base.

[4] Indexes on a December 1988 = 100 base.

Dash indicates data not available.

NOTE: Index applied to a month as a whole, not to any specific date.

33. Consumer Price Index: U.S. city average and available local area data: all items

[1982–84 = 100, unless otherwise indicated]

Area	Pricing schedule[1]	All Urban Consumers						Urban Wage Earners					
		2001				2002		2001				2002	
		Sept.	Oct.	Nov.	Dec	Jan.	Feb.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.
U.S. city average	M	178.3	177.7	177.4	176.7	177.1	177.8	174.8	174.0	173.7	172.9	173.2	173.7
Region and area size[2]													
Northeast urban	M	185.1	185.0	185.0	184.2	184.9	186.1	181.9	181.8	181.8	181.0	181.4	182.3
Size A—More than 1,500,000	M	186.5	186.3	186.1	185.4	186.2	187.8	182.4	182.0	181.9	181.1	181.6	182.8
Size B/C—50,000 to 1,500,000[3]	M	110.4	110.6	110.9	10.3	110.5	110.5	109.9	110.2	110.5	109.9	110.1	110.1
Midwest urban[4]	M	174.6	172.6	172.5	171.9	172.1	172.5	170.8	168.4	168.2	167.6	167.7	168.1
Size A—More than 1,500,000	M	176.1	174.5	174.2	173.8	174.1	174.7	171.3	169.4	169.1	168.7	168.8	169.4
Size B/C—50,000 to 1,500,000[3]	M	111.6	110.0	110.0	109.6	109.5	109.6	111.8	109.7	109.8	109.2	109.2	109.2
Size D—Nonmetropolitan (less than 50,000)	M	168.8	166.9	166.3	165.5	166.2	166.6	167.1	164.9	164.1	163.3	163.9	164.3
South urban	M	172.2	171.7	171.0	170.3	170.6	171.0	170.3	169.8	169.0	168.1	168.3	168.6
Size A—More than 1,500,000	M	173.2	173.1	172.2	171.7	171.7	172.4	170.9	170.7	169.6	169.0	169.0	169.5
Size B/C—50,000 to 1,500,000[3]	M	110.2	109.7	109.4	108.9	109.2	109.3	110.0	109.4	109.0	108.5	108.6	108.7
Size D—Nonmetropolitan (less than 50,000)	M	169.7	169.9	168.9	167.7	168.6	168.6	170.8	170.8	169.9	168.3	169.2	168.9
West urban	M	182.5	182.5	182.3	181.6	182.4	183.2	177.6	177.8	177.6	176.8	177.4	178.1
Size A—More than 1,500,000	M	111.7	112.1	112.0	111.6	111.9	185.4	178.1	178.0	177.7	176.9	177.7	178.6
Size B/C—50,000 to 1,500,000[3]	M	111.7	112.1	112.0	111.6	111.9	112.4	111.4	111.8	111.8	111.2	111.4	111.8
Size classes:													
A[5]	M	162.5	162.0	161.7	161.1	161.6	162.5	160.9	160.3	160.0	159.4	159.7	160.5
B/C[3]	M	110.8	110.3	110.2	109.7	109.9	110.1	110.6	110.0	109.9	109.3	109.9	109.5
D	M	172.0	171.5	170.8	169.8	170.5	170.7	171.1	170.4	169.7	168.5	169.7	169.3
Selected local areas[6]													
Chicago–Gary–Kenosha, IL–IN–WI	M	179.7	178.1	177.4	177.9	177.9	178.7	173.7	171.9	171.2	171.7	171.6	172.4
Los Angeles–Riverside–Orange County, CA	M	178.8	178.3	178.1	177.1	178.9	180.1	171.5	171.0	170.7	169.7	171.5	172.8
New York, NY–Northern NJ–Long Island, NY–NJ–CT–PA	M	188.0	187.8	187.8	187.3	188.5	189.9	183.6	183.3	183.3	182.8	183.5	184.7
Boston–Brockton–Nashua, MA–NH–ME–CT	1	192.7	–	192.7	–	192.9	–	192.0	–	191.9	–	191.8	–
Cleveland–Akron, OH	1	174.6	–	172.3	–	171.4	–	166.5	–	164.0	–	162.8	–
Dallas–Ft Worth, TX	1	172.8	–	171.5	–	170.6	–	172.6	–	171.1	–	170.0	–
Washington–Baltimore, DC–MD–VA–WV[7]	1	111.7	–	110.9	–	110.9	–	111.6	–	110.7	–	110.5	–
Atlanta, GA	2	–	176.7	–	174.8	–	176.1	–	169.6	–	172.0	–	173.2
Detroit–Ann Arbor–Flint, MI	2	–	174.8	–	173.5	–	176.2	–	169.1	–	167.9	–	170.5
Houston–Galveston–Brazoria, TX	2	–	159.4	–	157.1	-	156.6	–	157.8	–	155.2	–	154.3
Miami–Ft. Lauderdale, FL	2	–	174.2	–	173.1	–	175.0	–	171.7	–	170.5	–	172.3
Philadelphia–Wilmington–Atlantic City, PA–NJ–DE–MD	2	–	182.9	–	179.9	–	182.0	–	182.3	–	179.2	–	181.4
San Francisco–Oakland–San Jose, CA	2	–	191.7	–	190.6	–	191.3	–	187.5	–	186.5	–	186.8
Seattle–Tacoma–Bremerton, WA	2	–	187.9	–	186.1		187.6	–	183.1	–	181.1	–	182.5

[1] Foods, fuels, and several other items priced every month in all areas; most other goods and services priced as indicated:

M—Every month.

1—January, March, May, July, September, and November.

2—February, April, June, August, October, and December.

[2] Regions defined as the four Census regions.

[3] Indexes on a December 1996 = 100 base.

[4] The "North Central" region has been renamed the "Midwest" region by the Census Bureau. It is composed of the same geographic entities.

[5] Indexes on a December 1986 = 100 base.

[6] In addition, the following metropolitan areas are published semiannually and appear in tables 34 and 39 of the January and July issues of the *CPI Detailed Report*: Anchorage, AK; Cincinnati–Hamilton, OH–KY–IN; Denver–Boulder–Greeley, CO; Honolulu, HI; MO–KS; Milwaukee–Racine, WI; Minneapolis–St. Paul, MN–WI; Pittsburgh, PA; Port-land–Salem, OR–WA; St Louis, MO–IL; San Diego, CA; Tampa–St. Petersburg–Clearwater, FL.

[7] Indexes on a November 1996 = 100 base.

Dash indicates data not available.

NOTE: Local area CPI indexes are byproducts of the national CPI program. Each local index has a smaller sample size and is, therefore, subject to substantially more sampling and other measurement error. As a result, local area indexes show greater volatility than the national index, although their long-term trends are similar. Therefore, the Bureau of Labor Statistics strongly urges users to consider adopting the national average CPI for use in their escalator clauses. Index applies to a month as a whole, not to any specific date.

34. Annual data: Consumer Price Index, U.S. city average, all items and major groups

[1982–84 = 100]

Series	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Consumer Price Index for All Urban Consumers:										
All items:										
Index	140.3	144.5	148.2	152.4	156.9	160.5	163.0	166.6	172.2	177.1
Percent change	3.0	3.0	2.6	2.8	3.0	2.3	1.6	2.2	3.4	2.8
Food and beverages:										
Index	138.7	141.6	144.9	148.9	153.7	157.7	161.1	164.6	168.4	173.6
Percent change	1.4	2.1	2.3	2.8	3.2	2.6	2.2	2.2	2.3	3.1
Housing:										
Index	137.5	141.2	144.8	148.5	152.8	156.8	160.4	163.9	169.6	176.4
Percent change	2.9	2.7	2.5	2.6	2.9	2.6	2.3	2.2	3.5	4.0
Apparel:										
Index	131.9	133.7	133.4	132.0	131.7	132.9	133.0	131.3	129.6	127.3
Percent change	2.5	1.4	–.2	–1.0	–.2	.9	.1	–1.3	–1.3	–1.8
Transportation:										
Index	126.5	130.4	134.3	139.1	143.0	144.3	141.6	144.4	153.3	154.3
Percent change	2.2	3.1	3.0	3.6	2.8	0.9	–1.9	2.0	6.2	0.7
Medical care:										
Index	190.1	201.4	211.0	220.5	228.2	234.6	242.1	250.6	260.8	272.8
Percent change	7.4	5.9	4.8	4.5	3.5	2.8	3.2	3.5	4.1	4.6
Other goods and services:										
Index	183.3	192.9	198.5	206.9	215.4	224.8	237.7	258.3	271.1	282.6
Percent change	6.8	5.2	2.9	4.2	4.1	4.4	5.7	8.7	5.0	4.2
Consumer Price Index for Urban Wage Earners and Clerical Workers:										
All items:										
Index	138.2	142.1	145.6	149.8	154.1	157.6	159.7	163.2	168.9	173.5
Percent change	2.9	2.8	2.5	2.9	2.9	2.3	1.3	2.2	3.5	2.7

35. Producer Price Indexes, by stage of processing

[1982 = 100]

Grouping	Annual average		2001											2002	
	2000	2001	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.
Finished goods	138.0	140.7	141.5	141.0	141.7	142.5	142.1	140.7	141.1	141.7	139.6	139.7	137.2	137.5	137.7
Finished consumer goods	138.2	141.5	142.5	141.9	142.7	143.8	143.3	141.5	142.0	142.9	139.9	138.4	136.8	137.3	137.6
Finished consumer foods	137.2	141.3	139.5	140.9	141.6	141.8	141.9	141.2	142.6	142.9	141.8	140.5	140.4	141.1	142.7
Finshed consumer goods excluding foods	138.4	141.4	143.6	142.1	142.9	144.5	143.7	141.4	141.6	142.7	139.0	137.3	135.1	135.5	135.4
Nondurable goods less food	138.7	142.8	145.9	143.8	144.9	147.3	146.5	143.1	143.5	145.1	139.2	136.8	134.0	134.5	134.5
Durable goods	133.9	133.9	134.2	134.1	134.2	133.8	133.2	133.2	133.0	133.2	134.4	134.5	133.9	134.0	133.6
Capital equipment	138.8	139.7	139.7	139.7	140.0	139.7	139.6	139.8	139.5	139.4	139.8	139.9	139.7	139.6	139.6
Intermediate materials, supplies, and components	129.2	128.7	131.3	130.8	130.6	131.2	131.4	130.3	129.8	130.1	127.6	126.7	125.4	125.6	125.5
Materials and components for manufacturing	128.1	127.4	128.8	128.9	128.7	128.6	128.3	127.5	126.9	126.6	125.9	125.2	124.7	124.6	124.8
Materials for food manufacturing	119.2	124.3	120.3	122.3	122.3	124.6	125.7	126.1	128.1	127.5	126.1	123.9	122.5	122.6	123.3
Materials for nondurable manufacturing	132.6	131.8	136.1	135.8	135.2	134.2	133.4	131.9	130.1	129.9	128.7	127.4	126.2	124.9	125.7
Materials for durable manufacturing	129.0	125.2	127.0	126.7	126.0	126.9	126.5	125.3	124.6	124.2	123.4	122.8	122.5	122.7	122.7
Components for manufacturing	126.2	126.3	126.2	126.4	126.6	126.4	126.4	126.2	126.2	125.9	125.9	125.9	126.0	126.5	126.4
Materials and components for construction	150.7	150.6	150.0	150.2	150.4	151.6	151.7	151.0	151.0	150.8	150.4	150.3	149.0	150.3	150.3
Processed fuels and lubricants	102.0	104.5	109.9	106.9	105.9	108.1	110.2	106.8	106.0	108.4	97.4	94.7	89.3	90.4	89.6
Containers	151.6	153.1	153.0	152.8	153.2	153.9	154.1	153.6	153.2	153.0	152.4	152.2	152.2	152.5	152.3
Supplies	136.9	138.6	138.5	138.7	139.0	139.0	138.8	138.8	138.7	138.6	138.3	138.3	138.1	138.3	138.1
Crude materials for further processing	120.6	121.3	133.2	131.5	132.9	130.9	122.8	116.1	113.4	108.0	97.7	104.8	94.8	98.1	97.6
Foodstuffs and feedstuffs	100.2	106.2	104.5	108.9	109.1	110.3	109.7	109.6	108.9	108.5	104.7	98.3	96.4	99.5	102.3
Crude nonfood materials	130.4	127.3	148.2	142.2	144.5	140.4	127.4	116.3	112.4	103.8	89.4	105.5	90.2	93.6	90.4
Special groupings:															
Finished goods, excluding foods	138.1	140.4	142.0	140.9	141.6	142.6	142.0	140.5	140.5	141.3	138.8	137.7	136.1	136.3	136.2
Finished energy goods	94.1	96.8	103.6	99.7	101.2	104.1	102.7	97.0	97.8	100.1	90.1	85.5	80.7	81.7	81.8
Finished goods less energy	144.9	147.5	146.6	147.1	147.5	147.7	147.6	147.5	147.7	147.9	147.9	147.7	147.6	147.6	147.9
Finished consumer goods less energy	147.4	150.8	149.5	150.2	150.6	151.6	150.9	150.7	151.1	151.4	151.3	151.0	150.9	151.0	151.5
Finished goods less food and energy	148.0	150.0	149.4	149.5	149.8	150.0	149.9	149.9	149.7	149.8	150.4	150.6	150.4	150.3	150.1
Finished consumer goods less food and energy	154.0	156.9	155.9	156.1	156.4	156.9	156.7	156.8	156.6	156.8	157.5	157.8	157.6	157.5	157.2
Consumer nondurable goods less food and energy	169.8	175.1	173.2	173.5	174.0	175.4	175.5	175.5	175.3	175.6	175.8	176.4	176.4	176.1	176.0
Intermediate materials less foods and feeds	130.1	130.5	132.3	131.7	131.6	132.1	132.3	131.0	130.4	130.7	128.2	127.3	126.0	126.3	126.2
Intermediate foods and feeds	111.7	115.9	113.6	114.1	114.0	114.9	116.3	117.1	119.4	118.7	117.3	115.5	114.3	113.9	114.0
Intermediate energy goods	101.7	104.1	109.5	106.4	105.5	107.6	109.7	106.3	105.6	107.9	97.1	94.3	89.0	90.0	89.2
Intermediate goods less energy	135.0	135.1	135.8	136.0	136.0	136.1	135.9	135.3	134.9	134.7	134.2	133.7	133.4	133.4	133.5
Intermediate materials less foods and energy	136.6	136.4	137.3	137.4	137.4	137.5	137.2	136.5	136.0	135.8	135.3	134.9	134.6	134.7	134.8
Crude energy materials	122.1	122.8	148.3	141.0	145.2	139.8	123.1	109.0	104.2	93.1	75.2	96.5	76.7	81.0	75.7
Crude materials less energy	111.7	112.2	112.4	115.2	114.3	115.3	114.8	114.3	113.6	113.3	109.8	104.8	103.4	105.9	108.6
Crude nonfood materials less energy	145.2	130.6	136.1	134.6	130.8	130.9	130.6	129.4	128.4	128.5	125.8	124.5	124.2	125.4	127.4

36. Producer Price Indexes for the net output of major industry groups

[December 1984 = 100, unless otherwise indicated]

SIC	Industry	Annual average		2001											2002	
		2000	2001	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.
–	**Total mining industries**	113.5	114.9	138.2	130.7	132.2	127.5	115.5	103.4	100.4	92.6	78.8	93.2	78.0	81.6	77.9
10	Metal mining	73.8	70.6	72.4	73.1	70.0	71.4	71.0	70.4	69.6	70.6	70.4	68.1	67.8	69.7	73.8
12	Coal mining (12/85 = 100)	84.8	91.3	90.8	90.3	90.6	92.2	87.7	90.9	89.9	92.5	92.7	95.5	91.8	94.6	91.8
13	Oil and gas extraction (12/85 = 100)	126.8	128.4	159.4	149.3	151.5	144.9	129.6	112.9	109.4	98.3	79.7	98.8	79.1	84.0	78.0
14	Mining and quarrying of nonmetallic minerals, except fuels	137.0	141.0	140.1	140.8	140.8	140.7	141.8	141.6	141.2	141.4	141.9	141.8	141.4	142.3	143.0
–	**Total manufacturing industries**	133.5	134.5	134.7	134.6	135.4	136.3	136.0	134.6	134.8	135.6	133.6	132.8	131.4	131.7	132.0
20	Food and kindred products	128.5	132.8	130.4	131.7	132.5	133.2	133.8	133.9	134.7	134.7	133.9	132.4	131.8	131.5	132.2
21	Tobacco manufactures	345.8	386.1	372.4	372.3	372.1	391.2	391.7	391.1	391.0	391.1	391.1	398.3	398.3	391.7	391.8
22	Textile mill products	116.7	116.9	117.9	117.0	117.0	117.1	117.2	116.9	116.6	116.5	116.2	116.2	116.1	116.5	115.2
23	Apparel and other finished products made from fabrics and similar materials	125.7	125.8	125.7	125.7	125.9	125.8	125.7	125.9	126.1	125.9	125.9	125.9	125.4	125.3	125.3
24	Lumber and wood products, except furniture	158.1	156.1	153.8	154.5	154.7	160.5	161.3	158.2	157.5	156.9	154.3	153.8	153.3	154.3	154.9
25	Furniture and fixtures	143.3	145.1	144.3	144.8	144.7	144.9	145.2	145.3	145.2	145.3	145.8	145.8	145.5	145.6	145.8
26	Paper and allied products	145.8	146.2	147.0	147.0	147.0	146.9	146.8	146.4	145.4	145.5	145.1	144.4	144.7	144.2	143.4
27	Printing, publishing, and allied industries	182.9	188.6	187.2	187.6	188.4	188.8	188.4	188.6	188.9	188.8	189.2	189.6	189.5	192.0	192.3
28	Chemicals and allied products	156.7	158.4	161.6	161.9	161.4	160.4	160.0	158.8	156.3	156.4	156.0	155.4	154.0	153.6	154.5
29	Petroleum refining and related products	112.8	105.3	112.0	107.3	114.1	120.9	116.9	103.8	106.8	115.4	93.8	87.2	75.3	77.9	79.6
30	Rubber and miscellaneous plastics products	124.6	125.9	126.1	126.8	127.4	126.6	126.4	126.5	126.0	125.2	125.6	125.3	125.4	125.6	124.5
31	Leather and leather products	137.9	141.2	140.6	140.9	142.8	142.9	142.6	141.9	142.1	141.3	141.0	140.2	140.0	140.3	140.8
32	Stone, clay, glass, and concrete products	134.6	136.0	135.0	135.4	135.6	136.0	135.7	135.9	135.9	136.4	136.7	137.1	136.8	136.9	136.8
33	Primary metal industries	119.8	116.1	118.0	117.4	116.8	116.9	116.5	116.1	115.8	115.2	114.7	114.3	114.0	113.7	113.5
34	Fabricated metal products, except machinery and transportation equipment	130.3	131.0	130.7	130.8	131.2	131.1	131.1	131.1	131.1	131.1	131.0	131.0	131.1	131.1	131.3
35	Machinery, except electrical	117.5	117.9	117.8	117.8	118.0	118.0	118.1	118.1	118.0	117.8	117.7	117.8	117.8	117.8	117.4
36	Electrical and electronic machinery, equipment, and supplies	108.3	107.0	107.6	107.5	107.5	107.4	107.3	106.9	106.4	106.4	106.5	106.6	106.6	107.2	107.1
37	Transportation	136.8	137.8	137.6	137.9	138.1	137.4	137.1	137.3	137.2	137.2	138.5	138.5	137.9	137.7	137.8
38	Measuring and controlling instruments; photographic, medical, and optical goods; watches and clocks	126.2	127.2	127.1	126.9	126.9	127.3	127.4	127.2	127.4	127.5	127.1	127.6	127.8	128.2	128.4
39	Miscellaneous manufacturing industries (12/85 = 100)	130.9	132.3	131.9	132.3	132.2	132.5	132.5	132.7	132.3	132.6	132.6	132.1	132.3	132.5	132.9
	Service industries:															
42	Motor freight transportation and warehousing (06/93 = 100)	119.4	123.1	122.5	122.6	122.7	123.0	123.2	123.3	123.4	123.6	123.8	124.0	123.3	123.4	123.3
43	U.S. Postal Service (06/89 = 100)	135.2	143.4	141.3	141.3	141.3	141.3	141.3	145.4	145.4	145.4	145.4	145.4	145.4	145.4	145.4
44	Water transportation (12/92 = 100)	122.6	130.5	127.8	126.8	125.9	125.6	130.3	131.8	132.0	140.9	134.0	131.2	129.7	129.6	129.5
45	Transportation by air (12/92 = 100)	147.7	157.3	154.0	155.4	155.4	156.4	156.6	157.6	159.1	158.6	159.8	158.5	155.3	158.0	159.0
46	Pipelines, except natural gas (12/92 = 100)	102.3	110.2	109.1	108.9	108.9	109.0	109.0	110.9	111.2	111.3	111.5	111.3	111.3	111.2	111.3

37. Annual data: Producer Price Indexes, by stage of processing

[1982 = 100]

Index	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Finished goods										
Total	123.2	124.7	125.5	127.9	131.3	131.8	130.7	133.0	138.0	140.7
Foods	123.3	125.7	126.8	129.0	133.6	134.5	134.3	135.1	137.2	141.3
Energy	77.8	78.0	77.0	78.1	83.2	83.4	75.1	78.8	94.1	96.8
Other	134.2	135.8	137.1	140.0	142.0	142.4	143.7	146.1	148.0	150.0
Intermediate materials, supplies, and components										
Total	114.7	116.2	118.5	124.9	125.7	125.6	123.0	123.2	129.2	129.7
Foods	113.9	115.6	118.5	119.5	125.3	123.2	123.2	120.8	119.2	124.3
Energy	84.3	84.6	83.0	84.1	89.8	89.0	80.8	84.3	101.7	104.1
Other	122.0	123.8	127.1	135.2	134.0	134.2	133.5	133.1	136.6	136.4
Crude materials for further processing										
Total	100.4	102.4	101.8	102.7	113.8	111.1	96.8	98.2	120.6	121.3
Foods	105.1	108.4	106.5	105.8	121.5	112.2	103.9	98.7	100.2	106.2
Energy	78.8	76.7	72.1	69.4	85.0	87.3	68.6	78.5	122.1	122.8
Other	94.2	94.1	97.0	105.8	105.7	103.5	84.5	91.1	118.0	101.8

38. U.S. export price indexes by Standard International Trade Classification

[2000 = 100]

SITC Rev. 3	Industry	2001											2002	
		Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.
0	**Food and live animals**	101.9	102.5	101.9	101.2	101.1	101.8	102.6	103.3	102.7	100.9	101.1	102.7	100.0
01	Meat and meat preparations	102.6	102.6	105.2	106.2	106.1	105.7	106.4	107.8	107.8	99.2	97.8	93.1	91.2
04	Cereals and cereal preparations	106.7	107.9	104.2	104.3	102.6	102.2	104.5	106.4	103.9	105.2	107.2	108.3	105.8
05	Vegetables, fruit, and nuts, prepared fresh or dry	96.2	97.9	99.8	97.4	98.6	101.7	102.4	100.8	102.1	99.7	100.5	110.5	102.5
2	**Crude materials, inedible, except fuels**	97.7	96.0	94.5	93.3	92.6	92.4	91.1	89.5	87.1	86.3	87.0	87.1	86.8
22	Oilseeds and oleaginous fruits	93.4	94.5	89.7	91.0	95.6	102.5	104.3	99.0	89.8	89.1	90.9	91.6	89.4
24	Cork and wood	97.1	96.1	94.1	93.1	92.8	93.4	92.9	90.2	89.7	88.7	87.9	88.1	87.6
25	Pulp and waste paper	91.5	90.1	88.2	82.3	80.6	78.2	76.6	77.3	77.7	77.4	77.2	75.8	73.4
26	Textile fibers and their waste	101.9	97.6	93.5	92.5	90.9	90.4	89.3	87.7	84.5	82.0	84.0	85.3	86.6
28	Metalliferous ores and metal scrap	95.0	92.0	92.6	91.6	91.0	87.8	86.2	85.1	82.7	81.4	81.3	84.9	87.0
3	**Mineral fuels, lubricants, and related products**	107.1	102.4	104.8	106.8	103.2	96.7	97.5	103.3	93.4	88.3	82.4	86.8	84.0
32	Coal, coke, and briquettes	98.8	99.3	106.4	106.6	106.9	106.8	107.9	108.8	108.9	108.9	108.8	109.5	109.7
33	Petroleum, petroleum products, and related materials	106.5	0.2	102.7	106.1	101.8	93.7	95.2	103.6	88.4	80.9	74.6	80.1	76.5
5	**Chemicals and related products, n.e.s.**	98.5	98.7	98.1	96.9	96.2	94.9	94.1	93.8	93.8	93.6	92.8	92.1	92.2
54	Medicinal and pharmaceutical products	99.4	99.2	99.6	99.5	99.5	100.2	100.8	101.1	100.9	100.9	100.9	101.1	100.8
55	Essential oils; polishing and cleaning preparations	99.9	100.2	99.8	99.7	99.7	99.1	99.0	99.1	99.0	98.9	98.8	97.1	96.8
57	Plastics in primary forms	96.5	97.8	96.1	94.9	93.9	91.2	90.0	88.6	89.2	88.5	86.5	85.4	85.7
58	Plastics in nonprimary forms	97.3	97.6	97.6	97.0	97.4	98.0	96.9	97.2	95.9	95.8	95.8	96.0	95.8
59	Chemical materials and products, n.e.s.	99.1	99.1	99.3	98.9	99.1	98.7	98.7	99.0	98.6	98.7	97.6	97.9	97.3
6	**Manufactured goods classified chiefly by materials**	100.4	100.2	99.9	99.7	99.5	99.1	98.4	98.2	97.3	96.6	96.7	97.3	97.4
62	Rubber manufactures, n.e.s.	100.0	100.4	99.7	99.8	99.8	100.5	101.0	101.0	100.6	100.5	100.9	100.4	100.5
64	Paper, paperboard, and articles of paper, pulp, and paperboard	99.0	98.4	98.1	98.0	97.4	95.1	95.1	95.6	95.1	95.2	95.2	95.3	94.8
66	Nonmetallic mineral manufactures, n.e.s.	100.0	99.8	100.3	100.4	100.8	100.8	101.0	101.1	101.1	101.4	101.7	101.7	101.5
68	Nonferrous metals	106.3	104.9	101.6	100.0	98.0	97.0	93.0	90.2	86.9	81.8	83.1	85.3	85.9
7	**Machinery and transport equipment**	100.3	100.6	100.5	100.4	100.3	100.2	100.0	100.0	99.7	99.7	99.6	99.3	99.3
71	Power generating machinery and equipment	102.6	102.0	102.3	102.3	102.3	102.4	102.8	103.0	103.1	104.1	104.0	104.6	104.7
72	Machinery specialized for particular industries	100.6	100.5	100.3	100.3	100.3	99.6	99.5	99.5	100.6	100.5	100.5	100.7	100.9
74	General industrial machines and parts, n.e.s., and machine parts	100.8	101.0	101.3	101.3	101.3	101.8	101.8	101.9	101.8	101.9	101.7	102.1	102.0
75	Computer equipment and office machines	98.3	97.8	97.7	96.9	95.9	95.6	94.8	94.8	94.6	94.2	92.9	92.5	92.9
76	Telecommunications and sound recording and reproducing apparatus and equipment	99.8	99.8	99.8	99.7	99.8	99.8	98.7	98.5	98.0	98.0	97.7	97.9	97.5
77	Electrical machinery and equipment	99.2	99.2	98.7	98.7	98.3	97.8	97.7	97.6	95.9	95.9	95.9	94.8	94.7
78	Road vehicles	100.1	100.2	100.2	100.2	100.2	100.3	100.2	100.2	100.3	100.2	100.3	100.1	100.2
87	**Professional, scientific, and controlling instruments and apparatus**	100.8	100.8	100.6	100.8	100.9	100.8	100.8	100.9	101.0	100.9	100.9	100.8	101.1

39. U.S. import price indexes by Standard International Trade Classification

[2000 = 100]

SITC Rev. 3	Industry	2001											2002	
		Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.
0	**Food and live animals**	99.9	100.9	98.4	97.3	96.0	95.1	94.9	95.1	94.7	95.1	94.8	95.7	94.6
01	Meat and meat preparations	97.8	102.2	104.4	106.3	106.2	109.3	108.9	113.5	114.8	118.0	109.8	106.4	108.4
03	Fish and crustaceans, mollusks, and other aquatic invertebrates	96.2	93.0	91.2	90.7	90.0	87.0	86.8	86.3	84.6	82.8	82.9	82.3	82.0
05	Vegetables, fruit, and nuts, prepared fresh or dry	102.3	110.1	102.9	101.1	97.6	98.4	98.2	98.5	99.1	101.5	99.3	105.6	98.6
07	Coffee, tea, cocoa, spices, and manufactures thereof	88.0	88.7	89.6	87.4	85.8	81.2	78.8	80.1	77.3	77.2	78.5	77.5	78.8
1	**Beverages and tobacco**	100.7	100.4	100.6	102.0	101.7	101.7	102.1	1-2.0	102.7	102.6	103.0	102.8	102.8
11	Beverages	101.1	100.8	101.0	102.7	102.4	102.4	102.4	102.4	102.6	102.6	103.1	103.2	103.2
2	**Crude materials, inedible, except fuels**	97.5	94.5	95.0	98.1	102.8	96.4	95.8	96.6	94.5	91.3	89.9	90.0	92.7
24	Cork and wood	89.8	89.8	94.7	104.9	122.1	108.2	109.6	112.2	105.1	97.5	91.7	92.6	98.6
25	Pulp and waste paper	105.6	102.5	98.3	92.4	87.1	83.5	79.3	77.3	76.8	78.0	77.7	78.1	77.2
28	Metalliferous ores and metal scrap	99.4	96.6	96.5	95.5	93.9	94.4	93.1	92.8	91.6	89.8	91.2	91.4	92.7
29	Crude animal and vegetable materials, n.e.s.	108.6	92.0	86.5	94.9	92.9	80.8	81.0	83.8	93.4	93.1	96.0	92.2	91.7
3	**Mineral fuels, lubricants, and related products**	100.1	90.8	90.2	93.1	90.4	94.4	85.6	85.8	72.3	65.0	61.2	64.1	64.7
33	Petroleum, petroleum products, and related materials	92.0	86.5	85.8	90.0	89.3	84.4	86.1	86.8	73.0	63.0	59.8	62.8	64.9
34	Gas, natural and manufactured	154.3	119.1	119.0	113.7	97.4	82.8	80.9	77.8	65.7	75.9	68.7	70.8	58.3
5	**Chemicals and related products, n.e.s.**	102.2	102.4	102.2	101.6	100.5	99.3	98.4	98.3	98.8	97.8	97.5	97.6	96.8
52	Inorganic chemicals	108.2	107.2	104.0	101.2	100.1	99.4	98.0	98.1	99.4	98.9	97.6	97.0	97.1
53	Dying, tanning, and coloring materials	102.2	101.4	100.8	100.2	98.1	95.6	95.7	96.3	97.1	96.8	97.1	97.8	97.4
54	Medicinal and pharmaceutical products	97.8	97.5	96.9	96.7	96.7	99.0	97.3	97.0	97.5	97.3	97.0	97.0	96.4
55	Essential oils; polishing and cleaning preparations	99.3	99.7	99.0	98.7	98.4	98.1	98.1	99.7	99.8	99.7	100.1	100.1	99.9
57	Plastics in primary forms	100.8	101.1	101.1	101.1	102.1	102.1	100.5	99.7	99.8	99.8	99.8	98.5	97.0
58	Plastics in nonprimary forms	105.4	105.3	103.8	103.6	102.4	100.7	100.7	99.3	101.6	101.1	100.9	100.7	100.6
59	Chemical materials and products, n.e.s.	101.1	101.4	100.9	100.1	99.9	99.1	99.0	99.0	99.2	98.6	97.8	96.1	95.1
6	**Manufactured goods classified chiefly by materials**	101.5	100.0	99.1	98.2	98.0	96.8	95.0	94.8	93.8	92.4	92.0	92.4	92.2
62	Rubber manufactures, n.e.s.	99.8	99.7	99.4	99.4	99.0	98.8	98.7	98.7	98.5	97.8	97.9	97.4	97.6
64	Paper, paperboard, and articles of paper, pulp, and paperboard	103.5	103.6	104.7	103.7	102.7	101.7	99.9	99.3	98.6	97.6	96.1	95.0	93.7
66	Nonmetallic mineral manufactures, n.e.s.	99.9	99.9	99.6	99.7	99.4	99.3	99.1	99.3	97.5	97.2	97.5	97.2	97.1
68	Nonferrous metals	111.3	104.6	99.6	96.1	95.3	91.0	83.4	82.2	78.7	73.7	73.8	76.4	77.2
69	Manufactures of metals, n.e.s.	99.1	99.3	100.1	100.0	100.1	99.3	99.3	99.3	99.7	99.5	99.0	99.0	98.4
7	**Machinery and transport equipment**	99.2	99.2	98.7	98.5	98.5	98.2	98.1	98.0	98.0	97.9	97.7	97.5	97.3
72	Machinery specialized for particular industries	99.8	99.7	99.5	99.2	99.1	98.5	98.6	99.1	99.2	99.0	98.7	98.5	98.5
74	General industrial machines and parts, n.e.s., and machine parts	99.6	99.3	98.8	98.3	98.2	98.0	97.8	98.0	98.7	98.1	97.8	98.0	97.1
75	Computer equipment and office machines	96.3	95.7	94.1	93.9	93.6	92.1	91.7	90.0	89.1	89.0	88.8	88.6	88.3
76	Telecommunications and sound recording and reproducing apparatus and equipment	98.2	98.1	97.3	97.1	97.2	97.3	97.1	96.8	96.5	96.4	96.3	95.5	94.8
77	Electrical machinery and equipment	99.0	99.9	99.3	99.2	98.8	98.9	98.7	98.6	98.7	98.6	97.0	97.5	97.7
78	Road vehicles	100.1	100.1	99.9	99.7	99.8	99.7	88.7	100.0	100.3	100.2	100.3	100.2	100.2
85	Footwear	100.4	100.8	100.4	100.2	100.1	100.1	100.5	100.4	99.9	99.9	100.3	99.3	99.5
88	Photographic apparatus, equipment, and supplies, and optical goods, n.e.s.	99.9	99.7	98.9	98.8	98.5	97.9	97.9	98.2	98.6	98.5	98.4	97.7	97.3

40. U.S. export price indexes by end-use category

[2000 = 100]

Category	2001											2002	
	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.
ALL COMMODITIES	100.2	100.0	99.9	99.6	99.4	99.0	98.8	99.0	98.3	97.8	97.6	97.5	97.3
Foods, feeds, and beverages	100.2	101.0	100.2	99.8	100.4	101.7	102.6	102.6	101.2	99.7	100.6	102.0	98.9
Agricultural foods, feeds, and beverages	100.4	101.2	100.6	100.6	101.2	102.4	104.0	103.6	102.2	100.7	101.6	102.6	99.4
Nonagricultural (fish, beverages) food products	98.8	99.4	97.0	92.7	92.6	94.8	90.2	92.9	91.9	90.9	90.4	96.3	94.6
Industrial supplies and materials	99.9	98.9	98.7	98.0	97.2	95.5	94.8	95.2	93.6	92.3	91.4	91.5	91.4
Agricultural industrial supplies and materials	104.2	101.7	101.7	102.1	99.3	98.5	97.2	96.8	93.8	92.1	93.3	92.2	92.8
Fuels and lubricants	105.6	100.3	103.9	106.0	102.8	96.9	97.6	103.2	93.6	88.5	83.5	85.0	83.2
Nonagricultural supplies and materials, excluding fuel and building materials	98.8	98.5	97.8	96.5	96.1	94.9	94.0	93.8	93.4	92.8	92.3	92.2	92.3
Selected building materials	98.4	97.5	96.8	96.3	97.0	97.0	96.8	95.5	95.1	94.4	94.1	94.4	94.4
Capital goods	100.4	100.6	100.5	100.4	100.3	100.2	100.0	100.0	99.7	99.7	99.4	99.1	99.2
Electric and electrical generating equipment	101.3	100.9	101.3	101.7	101.7	101.8	101.5	101.6	101.6	101.6	101.5	102.0	102.1
Nonelectrical machinery	99.8	99.7	99.5	99.4	99.1	98.9	98.6	98.6	98.2	98.1	97.7	97.2	97.3
Automotive vehicles, parts, and engines	100.2	100.3	100.5	100.5	100.4	100.5	100.5	100.4	100.5	100.4	100.5	100.8	100.8
Consumer goods, excluding automotive	99.7	99.6	99.5	99.4	99.4	99.5	99.5	99.7	99.7	99.8	99.9	99.5	99.2
Nondurables, manufactured	99.2	99.0	98.9	98.9	99.0	98.9	98.9	99.1	99.0	99.1	99.1	98.2	98.2
Durables, manufactured	100.2	100.2	100.1	99.9	100.0	100.2	100.2	100.4	100.6	100.5	100.5	100.6	99.9
Agricultural commodities	101.0	101.3	100.8	100.8	100.9	101.8	102.8	102.5	100.7	99.2	100.2	100.8	98.3
Nonagricultural commodities	100.1	99.9	99.8	99.5	99.3	98.8	98.5	98.6	98.1	97.7	97.3	97.2	97.2

41. U.S. import price indexes by end-use category

[2000 = 100]

Category	2001											2002	
	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.
ALL COMMODITIES	99.9	98.3	97.8	98.0	97.6	96.1	96.0	95.9	93.7	92.3	91.4	91.8	91.7
Foods, feeds, and beverages	98.0	98.9	97.0	96.6	95.4	94.4	94.5	95.0	94.5	95.2	94.6	96.0	93.8
Agricultural foods, feeds, and beverages	98.4	101.0	98.9	98.4	97.0	96.7	96.9	97.8	97.8	99.5	98.3	100.2	97.2
Nonagricultural (fish, beverages) food products	97.0	94.5	3.1	92.9	92.2	89.7	89.5	89.2	87.8	86.4	86.8	87.0	86.8
Industrial supplies and materials	101.1	96.0	95.4	96.5	95.5	91.4	91.0	91.0	84.3	79.9	77.6	79.2	79.5
Fuels and lubricants	100.5	91.1	90.4	93.4	90.9	84.8	86.0	86.1	72.9	65.7	61.6	64.7	65.3
Petroleum and petroleum products	93.3	87.2	86.2	90.3	89.4	84.6	86.1	86.7	73.4	63.6	59.9	63.2	65.1
Paper and paper base stocks	104.8	104.4	104.6	102.2	100.0	98.0	95.1	93.9	93.1	92.3	90.7	90.0	88.8
Materials associated with nondurable supplies and materials	102.7	102.8	102.2	101.4	100.3	98.6	98.0	97.9	98.0	96.7	96.2	96.4	96.1
Selected building materials	91.7	91.9	93.9	100.1	111.1	103.0	102.9	103.7	99.9	96.1	92.9	93.1	96.0
Unfinished metals associated with durable goods	104.2	99.5	96.9	94.2	93.6	91.4	87.4	87.1	85.1	82.1	82.1	83.2	83.8
Nonmetals associated with durable goods	101.4	101.6	101.2	100.9	100.6	100.1	100.2	100.4	99.9	98.9	99.0	98.5	97.4
Capital goods	98.6	98.7	98.0	97.8	97.7	97.3	97.1	96.8	96.7	96.5	96.2	96.0	95.6
Electric and electrical generating equipment	99.6	102.1	101.6	101.8	101.8	101.6	101.3	101.4	101.4	101.2	100.6	100.0	99.5
Nonelectrical machinery	98.2	98.0	97.1	96.9	96.7	96.2	96.0	95.6	95.4	95.3	94.9	94.7	94.4
Automotive vehicles, parts, and engines	100.1	100.1	100.0	99.8	99.8	99.7	99.6	99.9	100.1	100.0	100.1	99.9	100.1
Consumer goods, excluding automotive	99.7	99.8	99.5	99.5	99.3	99.2	99.2	99.1	98.9	98.8	98.7	98.7	98.5
Nondurables, manufactured	99.8	100.2	100.1	100.0	99.8	100.0	100.0	99.6	99.6	99.6	99.7	99.8	99.7
Durables, manufactured	99.5	99.4	99.1	99.0	98.9	98.6	98.6	98.7	98.4	98.3	98.0	97.8	97.4
Nonmanufactured consumer goods	101.7	99.3	98.2	99.6	99.2	97.6	97.4	97.9	95.8	95.7	96.4	95.8	95.7

42. U.S. international price indexes for selected categories of services

[2000 = 100]

Category	1999	2000				2001			
	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.
Air freight (inbound)	102.8	100.7	100.1	100.2	99.0	97.9	95.1	94.9	95.2
Air freight (outbound)	99.2	99.2	100.3	100.2	100.2	100.1	98.0	97.6	97.9
Air passenger fares (U.S. carriers)	95.3	95.8	101.2	103.1	99.9	101.9	106.4	107.6	103.5
Air passenger fares (foreign carriers)	96.7	97.1	102.1	103.2	97.6	100.7	103.8	110.2	100.8
Ocean liner freight (inbound)	98.7	96.6	101.3	101.1	101.0	102.8	100.8	98.1	93.6

43. Indexes of productivity, hourly compensation, and unit costs, quarterly data seasonally adjusted

[1992 = 100]

Item	1998	1999				2000				2001			
	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV
Business													
Output per hour of all persons	111.9	112.7	112.4	113.3	115.3	115.3	117.5	117.8	118.7	118.6	119.3	119.5	121.1
Compensation per hour	121.8	123.1	124.4	126.1	127.3	129.3	132.1	134.3	137.4	139.1	140.9	142.1	142.9
Real compensation per hour	105.8	106.6	106.9	107.5	107.7	108.4	110.0	110.8	112.5	112.8	113.4	114.1	114.9
Unit labor costs	108.8	109.2	110.7	111.3	110.4	112.2	113.5	114.0	115.8	117.3	118.1	118.9	119.1
Unit nonlabor payments	114.3	114.5	112.6	112.3	114.8	114.2	115.1	113.8	112.0	111.7	111.5	111.7	112.0
Implicit price deflator	10.8	111.2	111.4	111.7	112.0	112.9	113.5	113.9	114.4	115.2	115.7	116.2	115.8
Nonfarm business													
Output per hour of all persons	111.5	112.2	111.8	112.7	113.8	113.8	116.7	117.2	117.8	117.8	118.4	118.7	120.2
Compensation per hour	121.1	122.2	123.5	125.1	126.6	128.7	131.2	133.6	136.5	138.1	139.7	141.0	141.8
Real compensation per hour	105.3	105.8	106.1	106.8	107.1	107.9	109.2	110.2	111.8	112.0	112.4	113.2	114.0
Unit labor costs	108.6	109.0	110.4	111.1	110.2	112.1	112.5	114.0	115.8	117.2	118.0	118.7	117.9
Unit nonlabor payments	115.4	116.0	114.2	114.0	116.5	115.9	116.7	115.3	113.4	113.1	112.9	112.9	113.9
Implicit price deflator	111.1	111.5	111.8	112.1	112.5	113.5	114.0	114.5	114.9	115.7	116.1	116.1	116.4
Nonfinancial corporations													
Output per hour of all employees	113.3	114.5	114.7	115.4	116.4	117.2	118.8	119.6	119.8	119.9	120.9	121.2	116.4
Compensation per hour	117.9	119.1	120.4	121.9	123.2	125.0	127.6	129.7	132.7	134.5	136.5	138.1	–
Real compensation per hour	102.4	103.1	103.5	104.0	104.2	104.8	106.1	107.0	108.7	109.1	109.9	110.9	–
Total unit costs	103.9	103.7	104.5	105.4	105.6	106.5	107.1	108.1	110.0	111.4	112.5	114.0	–
Unit labor costs	104.1	104.1	104.9	105.6	105.8	106.6	107.4	108.5	110.8	112.2	112.9	114.0	–
Unit nonlabor costs	103.3	102.8	103.4	105.0	105.1	106.2	106.5	107.1	107.8	109.3	111.2	114.2	–
Unit profits	137.7	141.6	135.4	128.0	131.3	135.1	139.3	135.8	120.5	111.1	107.4	99.6	–
Unit nonlabor payments	112.1	112.7	111.6	110.8	111.8	113.6	114.8	114.4	111.0	109.8	110.2	110.4	–
Implicit price deflator	106.7	106.9	107.1	107.4	107.8	108.9	109.8	110.5	110.9	111.4	112.0	112.8	–
Manufacturing													
Output per hour of all persons	125.9	127.6	128.3	129.6	132.7	135.2	137.2	138.3	138.3	138.3	138.1	139.0	140.4
Compensation per hour	119.1	119.8	121.2	123.0	124.5	126.3	128.6	131.9	135.9	137.9	140.0	141.2	142.0
Real compensation per hour	103.4	103.7	104.2	104.9	105.4	105.9	107.0	108.8	111.3	111.8	112.6	113.4	114.2
Unit labor costs	94.6	93.9	94.4	94.9	93.8	93.4	93.8	95.4	97.6	99.7	101.3	101.5	101.2

44. Annual indexes of multifactor productivity and related measures, selected years

[1996 = 100, unless otherwise indicated]

Item	1960	1970	1980	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Private business													
Productivity:													
Output per hour of all persons	45.6	63.0	75.8	90.2	91.3	94.8	95.4	96.6	97.3	100.0	102.0	104.8	104.8
Output per unit of capital services	110.4	111.1	101.5	99.3	96.1	97.7	98.5	100.3	99.7	100.0	100.5	100.1	100.1
Multifactor productivity	65.2	80.0	88.3	95.3	94.4	96.6	97.1	98.1	98.4	100.0	101.1	102.6	102.6
Output	27.5	42.0	59.4	83.6	82.6	85.7	88.5	92.8	95.8	100.0	105.2	110.6	110.6
Inputs:													
Labor input	54.0	61.0	71.9	89.4	88.3	89.3	91.8	95.6	98.0	100.0	103.7	106.4	106.4
Capital services	24.9	37.8	58.6	84.2	86.0	87.7	89.8	92.6	96.0	100.0	104.7	110.4	110.4
Combined units of labor and capital input	42.3	52.4	67.3	87.7	87.5	88.8	91.1	94.6	97.3	100.0	104.0	107.7	107.7
Capital per hour of all persons	41.3	56.7	74.7	90.8	95.0	97.0	96.8	96.3	97.6	100.0	101.5	104.7	104.7
Private nonfarm business													
Productivity:													
Output per hour of all persons	48.7	64.9	77.3	90.3	91.4	94.8	95.3	96.5	97.5	100.0	101.7	104.5	104.5
Output per unit of capital services	120.1	118.3	105.7	100.0	96.6	97.9	98.8	100.3	99.9	100.0	100.2	99.8	99.8
Multifactor productivity	69.1	82.6	90.5	95.6	94.7	96.6	97.1	98.1	98.6	100.0	100.9	102.4	102.4
Output	27.2	41.9	59.6	83.5	82.5	85.5	88.4	92.6	95.8	100.0	105.1	110.6	110.6
Inputs:													
Labor input	50.1	59.3	70.7	89.2	88.0	89.0	91.8	95.4	97.8	100.0	103.8	106.6	106.6
Capital services	22.6	35.5	56.4	83.5	85.4	87.3	89.5	92.3	95.9	100.0	104.9	110.8	110.8
Combined units of labor and capital input	39.3	50.7	65.9	87.3	87.1	88.4	91.0	94.4	97.2	100.0	104.2	108.0	108.0
Capital per hour of all persons	40.5	54.8	73.1	90.3	94.7	96.8	96.5	96.3	97.6	100.0	101.5	104.7	104.7
Manufacturing (1992 = 100)													
Productivity:													
Output per hour of all persons	41.8	54.2	70.1	92.8	95.0	100.0	101.9	105.0	109.0	112.8	117.1	124.3	124.3
Output per unit of capital services	124.3	116.5	100.9	101.6	97.5	100.0	101.1	104.0	105.0	104.5	105.6	106.5	106.5
Multifactor productivity	72.7	84.4	86.6	99.3	98.3	100.0	100.4	102.6	105.0	106.1	109.8	113.2	113.2
Output	38.5	56.5	75.3	97.3	95.4	100.0	103.3	108.7	113.4	116.9	123.5	130.7	130.7
Inputs:													
Hours of all persons	92.0	104.2	107.5	104.8	100.4	100.0	101.4	103.6	104.0	103.7	105.5	105.2	105.2
Capital services	30.9	48.5	74.7	95.8	97.9	100.0	102.2	104.5	108.0	111.9	116.9	122.8	122.8
Energy	51.3	85.4	92.5	99.9	100.1	100.0	103.7	107.3	109.5	107.0	103.9	109.2	109.2
Nonenergy materials	38.2	44.8	75.0	92.5	93.6	100.0	105.7	111.3	112.8	120.4	120.4	127.2	127.2
Purchased business services	28.2	48.8	73.7	92.5	92.1	100.0	103.0	105.1	110.0	108.9	114.2	116.8	116.8
Combined units of all factor inputs	52.9	67.0	87.0	98.0	97.0	100.0	102.9	106.0	107.9	110.2	112.5	115.5	115.5

45. Annual indexes of productivity, hourly compensation, unit costs, and prices, selected years

[1992 = 100]

Item	1960	1970	1980	1990	1993	1994	1995	1996	1997	1998	1999	2000	2001
Business													
Output per hour of all persons	48.8	67.0	80.4	95.2	100.5	101.9	102.6	105.4	107.8	110.8	113.8	116.9	119.6
Compensation per hour	13.7	23.5	54.2	90.7	102.5	104.5	106.7	110.1	113.5	119.6	125.1	132.8	141.2
Real compensation per hour	60.0	78.9	89.4	96.5	99.9	99.7	99.3	99.7	100.6	104.6	107.1	110.1	113.6
Unit labor costs	28.0	35.1	67.4	95.3	101.9	102.6	104.1	104.5	105.3	108.0	109.9	113.6	118.1
Unit nonlabor payments	25.2	31.6	61.5	93.9	102.5	106.4	109.4	113.3	117.1	115.1	115.1	113.9	111.7
Implicit price deflator	27.0	33.9	65.2	94.8	102.2	104.0	106.0	107.7	109.7	110.6	111.8	113.7	115.7
Nonfarm business													
Output per hour of all persons	51.9	68.9	82.0	95.3	100.5	101.8	102.8	105.4	107.5	110.4	113.2	116.2	118.8
Compensation per hour	14.3	23.7	54.6	90.5	102.2	104.3	106.6	109.8	113.1	119.0	124.2	132.0	140.1
Real compensation per hour	62.8	79.5	90.0	96.3	99.6	99.5	99.2	99.4	100.2	104.0	106.4	109.4	112.9
Unit labor costs	27.5	34.4	66.5	95.0	101.7	102.5	103.7	104.2	105.2	107.7	109.7	113.6	118.0
Unit nonlabor payments	24.6	31.3	60.5	93.6	103.0	106.9	110.4	113.5	118.0	116.3	116.8	115.4	113.2
Implicit price deflator	26.5	33.3	64.3	94.5	102.2	104.1	106.1	107.6	109.8	110.8	112.3	114.2	116.2
Nonfinancial corporations													
Output per hour of all employees	55.4	70.4	81.1	95.4	100.7	103.1	104.2	107.5	108.4	112.3	116.2	119.9	–
Compensation per hour	15.6	25.3	56.4	90.8	102.0	104.2	106.2	109.0	110.3	115.9	121.1	128.3	–
Real compensation per hour	68.3	84.7	93.1	96.7	99.5	99.4	98.8	98.7	97.8	101.3	103.7	106.4	–
Total unit costs	26.8	34.8	68.4	95.9	101.0	101.1	102.0	101.2	101.5	102.6	103.7	106.7	–
Unit labor costs	28.1	35.9	69.6	95.2	101.3	101.0	101.9	101.4	101.8	103.2	104.2	107.0	–
Unit nonlabor costs	23.3	31.9	65.1	98.0	100.2	101.3	102.2	100.6	100.9	101.2	102.5	105.6	–
Unit profits	50.2	44.4	68.8	94.3	113.2	131.7	139.0	152.2	156.9	148.9	147.6	131.0	–
Unit nonlabor payments	30.2	35.1	66.0	97.1	103.5	109.0	111.6	113.8	115.2	113.4	114.0	112.1	–
Implicit price deflator	28.8	35.6	68.4	95.8	102.1	103.7	105.1	105.5	106.2	106.6	107.4	108.7	–
Manufacturing													
Output per hour of all persons	41.8	54.2	70.1	92.8	101.9	105.0	109.0	112.8	117.1	124.3	129.6	137.5	138.9
Compensation per hour	14.9	23.7	55.6	90.8	102.7	105.6	107.9	109.3	111.4	117.3	122.0	130.7	140.2
Real compensation per hour	65.2	79.5	91.7	96.6	100.2	100.8	100.4	99.0	98.8	102.6	104.5	108.8	113.0
Unit labor costs	35.6	43.8	79.3	97.8	100.8	100.7	99.0	96.9	95.1	94.4	94.1	95.1	100.9
Unit nonlabor payments	26.8	29.3	80.2	99.7	100.9	102.8	106.9	109.9	109.6	104.4	105.5	–	–
Implicit price deflator	30.2	34.9	79.8	99.0	100.9	102.0	103.9	104.9	104.0	100.5	101.1	–	–

Dash indicates data not available.

46. Annual indexes of output per hour for selected 3-digit SIC industries

[1987=100]

Industry	SIC	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Mining												
Copper ores	102	102.7	100.5	115.2	118.1	126.0	117.2	116.5	118.9	118.3	110.0	122.6
Gold and silver ores	104	122.3	127.4	141.6	159.8	160.8	144.2	138.3	158.5	187.6	197.5	239.9
Bituminous coal and lignite mining	122	118.7	122.4	133.0	141.2	148.1	155.9	168.0	176.6	188.0	194.9	207.0
Crude petroleum and natural gas	131	97.0	97.9	102.1	105.9	112.4	119.4	123.9	125.2	127.5	134.5	142.5
Crushed and broken stone	142	102.2	99.8	105.0	103.6	108.7	105.4	107.2	112.6	110.2	105.0	101.9
Manufacturing												
Meat products	201	97.1	99.6	104.6	104.3	101.2	102.3	97.4	102.5	102.3	101.8	102.9
Dairy products	202	107.3	108.3	111.4	109.6	111.8	116.4	116.0	119.3	119.3	112.7	113.5
Preserved fruits and vegetables	203	95.6	99.2	100.5	106.8	107.6	109.1	109.2	110.7	117.8	120.4	123.5
Grain mill products	204	105.4	104.9	107.8	109.2	108.4	115.4	108.0	118.2	126.2	129.3	127.5
Bakery products	205	92.7	90.6	93.8	94.4	96.4	97.3	95.6	99.1	100.9	106.4	107.6
Sugar and confectionery products	206	103.2	102.0	99.8	104.5	106.2	108.3	113.7	116.7	123.0	127.0	130.5
Fats and oils	207	118.1	120.1	114.1	112.6	111.8	120.3	110.1	120.2	137.3	154.4	151.4
Beverages	208	117.0	120.0	127.1	126.4	130.1	133.5	135.0	135.5	136.4	129.7	128.6
Miscellaneous food and kindred products	209	99.2	101.7	101.5	105.2	100.9	102.9	109.1	104.0	112.4	113.9	116.3
Cigarettes	211	113.2	107.6	111.6	106.5	126.6	142.9	147.2	147.2	152.2	137.7	139.1
Broadwoven fabric mills, cotton	221	103.1	111.2	110.3	117.8	122.1	134.0	137.3	131.2	136.2	139.3	140.2
Broadwoven fabric mills, manmade	222	111.3	116.2	126.2	131.7	142.5	145.3	147.6	162.2	168.6	175.3	167.4
Narrow fabric mills	224	96.5	99.6	112.9	111.4	120.1	118.9	126.3	110.8	117.7	124.9	117.1
Knitting mills	225	107.5	114.0	119.3	127.9	134.1	138.3	150.3	138.0	135.9	146.6	155.6
Textile finishing, except wool	226	83.4	79.9	78.6	79.3	81.2	78.5	79.2	94.3	93.7	94.4	97.2
Carpets and rugs	227	93.2	89.2	96.1	97.1	93.3	95.8	100.2	100.3	102.3	96.0	103.0
Yarn and thread mills	228	110.2	111.4	119.6	126.6	130.7	137.4	147.4	150.4	153.0	157.6	155.4
Miscellaneous textile goods	229	109.2	104.6	106.5	110.4	118.5	123.7	123.1	118.7	120.1	128.0	134.4
Men's and boys' furnishings	232	102.1	108.4	109.1	108.4	111.7	123.4	134.7	162.1	174.8	190.9	200.3
Women's and misses' outerwear	233	104.1	104.3	109.4	121.8	127.4	135.5	141.6	149.9	151.9	173.9	189.9
Women's and children's undergarments	234	102.1	113.7	117.4	124.5	138.0	161.3	174.5	208.9	216.4	294.7	352.3
Hats, caps, and millinery	235	89.2	91.1	93.6	87.2	77.7	84.3	82.2	87.1	98.7	99.3	106.1
Miscellaneous apparel and accessories	238	90.6	91.8	91.3	94.0	105.5	116.8	120.1	101.5	108.0	105.8	111.3
Miscellaneous fabricated textile products	239	99.9	100.7	107.5	108.5	107.8	109.2	105.6	119.2	117.3	128.8	132.5
Sawmills and planing mills	242	99.8	102.6	108.1	101.9	103.3	110.2	115.6	116.9	118.7	125.4	124.4
Millwork, plywood, and structural members	243	98.0	98.0	99.9	97.0	94.5	92.7	92.4	89.1	91.3	89.2	91.4
Wood containers	244	111.2	113.1	109.4	100.1	100.9	106.1	106.7	106.2	106.5	103.9	104.6
Wood buildings and mobile homes	245	103.1	103.0	103.1	103.8	98.3	97.0	96.7	100.3	99.2	100.3	94.6
Miscellaneous wood products	249	107.7	110.5	114.2	115.3	111.8	115.4	114.4	123.4	131.2	140.7	146.5
Household furniture	251	104.5	107.1	110.5	110.6	112.5	116.9	121.6	121.3	125.7	128.9	128.4
Office furniture	252	95.0	94.1	102.5	103.2	100.5	101.1	106.4	118.3	113.1	108.9	111.2
Public building and related furniture	253	119.8	120.2	140.6	161.0	157.4	173.3	181.5	214.9	207.6	222.4	202.0
Partitions and fixtures	254	95.6	93.0	102.7	107.4	98.9	101.2	97.5	121.1	125.6	125.9	131.9
Miscellaneous furniture and fixtures	259	103.5	102.1	99.5	103.6	104.7	110.0	113.2	110.7	121.9	119.1	110.5
Pulp mills	261	116.7	128.3	137.3	122.5	128.9	131.9	132.6	82.3	86.6	84.8	78.8
Paper mills	262	102.3	99.2	103.3	102.4	110.2	118.6	111.6	112.0	114.8	126.2	133.5
Paperboard mills	263	100.6	101.4	104.4	108.4	114.9	119.5	118.0	126.7	127.8	134.9	135.3
Paperboard containers and boxes	265	101.3	103.4	105.2	107.9	108.4	105.1	106.3	109.7	113.5	111.9	112.9
Miscellaneous converted paper products	267	101.4	105.3	105.5	107.9	110.6	113.3	113.6	119.5	123.0	126.0	128.3
Newspapers	271	90.6	85.8	81.5	79.4	79.9	79.0	77.4	79.0	83.6	86.0	88.3
Periodicals	272	93.9	89.5	92.9	89.5	81.9	87.8	89.1	100.1	112.2	111.2	109.9
Books	273	96.6	100.8	97.7	103.5	103.0	101.6	99.3	102.6	100.9	106.1	106.1
Miscellaneous publishing	274	92.2	95.9	105.8	104.5	97.5	94.8	93.6	114.5	119.4	127.2	127.8
Commercial printing	275	102.5	102.0	108.0	106.9	106.5	107.2	108.3	108.8	109.9	115.0	118.7
Manifold business forms	276	93.0	89.1	94.5	91.1	82.0	76.9	75.2	77.9	76.7	70.6	69.4
Greeting cards	277	100.6	92.7	96.7	91.4	89.0	92.5	90.8	92.2	104.1	109.3	105.1
Blankbooks and bookbinding	278	99.4	96.1	103.6	98.7	105.4	108.7	114.5	114.2	116.5	123.8	126.2
Printing trade services	279	99.3	100.6	112.0	115.3	111.0	116.7	126.2	123.3	126.7	121.5	119.6
Industrial inorganic chemicals	281	106.8	109.7	109.7	105.6	102.3	109.3	110.1	116.8	145.8	148.5	141.3
Plastics materials and synthetics	282	100.9	100.0	107.5	112.0	125.3	128.3	125.3	135.4	142.2	148.6	151.0
Drugs	283	103.8	104.5	99.5	99.7	104.6	108.7	112.5	112.4	104.3	105.6	106.2
Soaps, cleaners, and toilet goods	284	103.8	105.3	104.4	108.7	111.2	118.6	120.9	126.4	122.7	114.8	124.8
Paints and allied products	285	106.3	104.3	102.9	108.8	116.7	118.0	125.6	126.4	126.8	122.7	124.6
Industrial organic chemicals	286	101.4	95.8	94.6	92.2	99.9	98.6	99.0	111.3	105.7	120.6	127.8
Agricultural chemicals	287	104.7	99.5	99.5	103.8	105.0	108.5	110.0	119.8	118.0	104.6	112.0

See footnotes at end of table.

46. Continued - Annual indexes of output per hour for selected 3-digit SIC industries

[1987=100]

Industry	SIC	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Miscellaneous chemical products	289	97.3	96.1	101.8	107.1	105.7	107.8	110.1	120.3	120.8	123.3	125.6
Petroleum refining	291	109.2	106.6	111.3	120.1	123.8	132.3	142.0	149.2	155.8	170.2	180.2
Asphalt paving and roofing materials	295	98.0	94.1	100.4	108.0	104.9	111.2	113.1	123.1	124.7	123.4	126.1
Miscellaneous petroleum and coal products	299	94.8	90.6	101.5	104.2	96.3	87.4	87.1	96.5	98.5	86.5	82.9
Tires and inner tubes	301	103.0	102.4	107.8	116.5	124.1	131.1	138.8	149.1	144.1	142.1	145.9
Hose and belting and gaskets and packing	305	96.1	92.4	97.8	99.7	102.7	104.6	107.4	113.5	112.7	110.6	115.4
Fabricated rubber products, n.e.c.	306	109.0	109.9	115.2	123.1	119.1	121.5	121.0	125.3	132.3	136.9	144.7
Miscellaneous plastics products, n.e.c.	308	105.7	108.3	114.4	116.7	120.8	121.0	124.7	129.9	133.8	140.9	145.4
Footwear, except rubber	314	101.1	94.4	104.2	105.2	113.0	117.1	126.1	121.4	110.9	132.6	146.2
Flat glass	321	84.5	83.6	92.7	97.7	97.6	99.6	101.5	107.6	114.0	129.4	140.4
Glass and glassware, pressed or blown	322	104.8	102.3	108.9	108.7	112.9	115.7	121.4	128.3	135.2	139.3	135.8
Products of purchased glass	323	92.6	97.7	101.5	106.2	105.9	106.1	122.0	125.1	122.0	130.2	137.2
Cement, hydraulic	324	112.4	108.3	115.1	119.9	125.6	124.3	128.7	133.1	134.1	138.6	136.9
Structural clay products	325	109.6	109.8	111.4	106.8	114.0	112.6	119.6	111.9	114.8	123.5	124.8
Pottery and related products	326	98.7	95.9	99.5	100.3	108.5	109.4	119.4	124.2	127.4	122.0	121.2
Concrete, gypsum, and plaster products	327	102.3	101.2	102.5	104.6	101.5	104.5	107.3	107.6	112.8	111.1	105.1
Miscellaneous nonmetallic mineral products	329	95.4	94.0	104.3	104.5	106.3	107.8	110.4	114.7	114.9	113.3	116.1
Blast furnace and basic steel products	331	109.7	107.8	117.0	133.6	142.4	142.6	147.5	155.0	151.0	155.6	160.1
Iron and steel foundries	332	106.1	104.5	107.2	112.1	113.0	112.7	116.2	120.8	121.1	128.9	132.1
Primary nonferrous metals	333	102.3	110.7	101.9	107.9	105.3	111.0	110.8	112.0	118.9	117.7	111.9
Nonferrous rolling and drawing	335	92.7	91.0	96.0	98.3	101.2	99.2	104.0	111.3	115.7	121.4	118.0
Nonferrous foundries (castings)	336	104.0	103.6	103.6	108.5	112.1	117.8	122.3	127.0	131.5	129.8	129.7
Miscellaneous primary metal products	339	113.7	109.1	114.5	111.3	134.5	152.2	149.6	136.2	140.0	149.0	154.3
Metal cans and shipping containers	341	117.6	122.9	127.8	132.3	140.9	144.2	155.2	160.3	163.8	157.9	159.5
Cutlery, handtools, and hardware	342	97.3	96.8	100.1	104.0	109.2	111.3	118.2	114.6	115.7	121.9	125.4
Plumbing and heating, except electric	343	102.6	102.0	98.4	102.0	109.1	109.2	118.6	127.3	130.5	125.7	132.2
Fabricated structural metal products	344	98.8	100.0	103.9	104.8	107.7	105.8	106.5	111.9	112.7	112.8	112.8
Metal forgings and stampings	346	95.6	92.9	103.7	108.7	108.5	109.3	113.6	120.2	125.9	128.3	129.8
Metal services, n.e.c.	347	104.7	99.4	111.6	120.6	123.0	127.7	128.4	124.4	127.3	126.1	135.7
Ordnance and accessories, n.e.c.	348	82.1	81.5	88.6	84.6	83.6	87.6	87.5	93.7	96.6	91.0	92.8
Miscellaneous fabricated metal products	349	97.5	97.4	101.1	102.0	103.2	106.6	108.3	107.7	111.6	109.3	109.2
Engines and turbines	351	106.5	105.8	103.3	109.2	122.3	122.7	136.6	136.9	146.1	151.5	164.5
Farm and garden machinery	352	116.5	112.9	113.9	118.6	125.0	134.7	137.2	141.2	148.5	128.6	139.6
Construction and related machinery	353	107.0	99.1	102.0	108.2	117.7	122.1	123.3	132.5	137.6	133.6	139.8
Metalworking machinery	354	101.1	96.4	104.3	107.4	109.9	114.8	114.9	119.2	119.8	123.0	129.8
Special industry machinery	355	107.5	108.3	106.0	113.6	121.2	132.3	134.0	131.7	124.5	138.6	172.2
General industrial machinery	356	101.5	101.6	101.6	104.8	106.7	109.0	109.4	110.0	111.2	113.1	118.7
Computer and office equipment	357	138.1	149.6	195.7	258.6	328.6	469.4	681.3	960.2	1356.6	1862.5	2172.0
Refrigeration and service machinery	358	103.6	100.7	104.9	108.6	110.7	112.7	114.7	115.0	121.4	124.0	122.3
Industrial machinery, n.e.c.	359	107.3	109.0	117.0	118.5	127.4	138.8	141.4	129.3	127.5	135.8	141.8
Electric distribution equipment	361	106.3	106.5	119.6	122.2	131.8	143.0	143.9	142.8	147.5	148.9	155.4
Electrical industrial apparatus	362	107.7	107.1	117.1	132.9	134.9	150.8	154.3	164.2	162.3	158.3	157.0
Household appliances	363	105.8	106.5	115.0	123.4	131.4	127.3	127.4	142.9	150.2	149.5	162.4
Electric lighting and wiring equipment	364	99.9	97.5	105.7	107.8	113.4	113.7	116.9	121.8	129.2	132.4	134.8
Communications equipment	366	123.8	129.1	154.9	163.1	186.4	200.7	229.5	275.4	284.5	371.9	448.8
Electronic components and accessories	367	133.4	154.7	189.3	217.9	274.0	401.5	515.0	613.4	768.6	1062.6	1440.1
Miscellaneous electrical equipment & supplies	369	90.6	98.6	101.3	108.2	110.5	114.1	123.1	128.3	135.3	147.2	156.0
Motor vehicles and equipment	371	102.4	96.6	104.2	106.2	108.8	106.7	107.2	116.3	125.2	136.7	127.1
Aircraft and parts	372	98.9	108.2	112.3	115.2	109.5	107.8	113.1	114.7	140.1	138.1	132.2
Ship and boat building and repairing	373	103.7	96.3	102.7	105.9	103.8	98.1	99.3	105.5	102.5	113.1	121.6
Railroad equipment	374	141.1	146.9	147.9	151.0	152.5	150.0	148.3	184.2	189.1	212.8	218.4
Motorcycles, bicycles, and parts	375	93.8	99.8	108.4	130.9	125.1	120.3	125.5	120.4	127.7	122.4	119.4
Guided missiles, space vehicles, parts	376	116.5	110.5	110.5	119.4	114.9	116.9	125.1	133.6	138.9	156.1	113.3
Search and navigation equipment	381	112.7	118.9	122.1	129.1	132.1	149.5	142.2	149.5	149.1	149.6	163.7
Measuring and controlling devices	382	106.4	113.1	119.9	124.0	133.8	146.4	150.5	142.4	143.5	152.4	158.5
Medical instruments and supplies	384	116.9	118.7	123.5	127.3	126.7	131.5	139.8	147.4	158.6	160.4	167.0
Ophthalmic goods	385	121.2	125.1	144.5	157.8	160.6	167.2	188.2	196.5	199.0	235.2	250.2
Photographic equipment & supplies	386	107.8	110.2	116.4	126.9	132.7	129.5	128.7	121.5	128.0	160.6	169.4
Jewelry, silverware, and plated ware	391	99.3	95.8	96.7	96.7	99.5	100.2	102.6	114.2	113.1	134.3	144.9
Musical instruments	393	97.1	96.9	96.0	95.6	88.7	86.9	78.8	82.9	81.4	97.1	105.3

See footnotes at end of table.

46. Continued - Annual indexes of output per hour for selected 3-digit SIC industries

[1987=100]

Industry	SIC	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Toys and sporting goods	394	108.1	109.7	104.9	114.2	109.7	113.6	119.9	125.7	131.6	126.6	140.4
Pens, pencils, office, and art supplies	395	118.2	116.8	111.3	111.6	129.9	135.2	144.1	127.5	132.5	123.4	124.9
Costume jewelry and notions	396	105.3	106.7	110.8	115.8	129.0	143.7	142.2	118.0	131.2	130.8	145.3
Miscellaneous manufactures	399	106.5	109.2	109.5	107.7	106.1	108.1	112.8	109.4	108.5	114.9	115.9
Transportation												
Railroad transportation	4011	118.5	127.8	139.6	145.4	150.3	156.2	167.0	169.8	173.3	182.5	195.8
Trucking, except local [1]	4213	111.1	116.9	123.4	126.6	129.5	125.4	130.9	132.4	129.9	131.6	131.2
United States postal service [2]	431	104.0	103.7	104.5	107.1	106.6	106.5	104.7	108.3	109.8	110.9	113.6
Air transportation	4512,13,22(pts.)	92.9	92.5	96.9	100.2	105.7	108.6	111.1	111.6	108.4	109.1	110.7
Utilities												
Telephone communications	481	113.3	119.8	127.7	135.5	142.2	148.1	159.5	160.9	170.1	186.3	201.3
Radio and television broadcasting	483	104.9	106.1	108.3	106.7	110.1	109.6	105.8	101.7	104.5	108.4	109.9
Cable and other pay TV services	484	92.6	87.6	88.5	85.3	83.4	84.5	81.9	84.7	86.1	85.0	87.6
Electric utilities	491,3(pts.)	110.1	113.4	115.2	24.1	50.5	80.8	116.8	150.0	159.6	162.0	169.6
Gas utilities	492,3(pts.)	105.8	109.6	111.1	121.8	125.6	137.1	145.9	158.6	144.4	147.2	160.6
Trade												
Lumber and other building materials dealers	521	104.3	102.3	106.4	111.4	118.9	117.8	121.6	121.8	134.2	143.0	144.2
Paint, glass, and wallpaper stores	523	106.8	100.4	107.6	114.2	127.8	130.9	133.5	134.8	163.5	165.1	170.1
Hardware stores	525	115.3	108.7	115.2	113.9	121.2	115.6	119.5	119.0	137.9	147.6	145.7
Retail nurseries, lawn and garden supply stores	526	84.7	89.3	101.2	107.1	117.0	117.4	136.4	127.5	133.7	150.4	154.5
Department stores	531	96.8	102.0	105.4	110.4	113.5	116.1	123.8	129.1	135.8	146.0	160.4
Variety stores	533	154.6	159.0	173.9	191.9	197.9	212.4	240.4	260.1	271.2	315.0	330.9
Miscellaneous general merchandise stores	539	118.6	124.8	140.4	164.3	164.8	167.4	167.7	170.4	185.9	199.6	224.3
Grocery stores	541	96.6	96.3	96.5	96.0	95.4	93.9	92.1	91.7	92.2	95.3	96.1
Meat and fish (seafood) markets	542	98.9	90.8	99.2	97.7	95.7	94.4	86.4	90.8	95.7	97.4	110.0
Retail bakeries	546	91.2	96.7	96.5	86.5	85.3	83.0	75.9	67.6	68.1	83.1	88.4
New and used car dealers	551	106.7	104.9	107.4	108.6	109.7	108.1	109.1	108.8	108.7	111.6	112.5
Auto and home supply stores	553	103.7	100.2	101.6	100.8	105.3	109.1	108.2	108.1	113.1	115.5	119.3
Gasoline service stations	554	103.0	104.8	110.2	115.9	121.1	127.2	126.1	126.1	133.9	141.7	139.0
Men's and boy's wear stores	561	115.6	121.9	122.3	119.5	121.7	121.4	129.8	136.3	145.2	154.5	165.0
Women's clothing stores	562	106.6	111.2	123.6	130.0	130.4	139.9	154.2	157.3	176.0	190.2	205.7
Family clothing stores	565	107.8	111.5	118.6	121.5	127.7	141.8	146.9	150.2	153.1	155.9	160.4
Shoe stores	566	107.9	107.8	115.5	117.3	130.7	139.2	151.9	148.4	145.0	152.9	160.2
Furniture and homefurnishings stores	571	104.6	105.4	113.9	113.3	114.7	117.4	123.6	124.2	127.3	134.5	141.1
Household appliance stores	572	104.6	107.2	116.1	118.7	122.4	139.6	142.2	155.2	184.2	186.4	209.3
Radio, television, computer, and music stores	573	120.8	129.3	139.3	153.8	178.2	198.1	206.6	216.8	258.3	309.1	359.4
Eating and drinking places	581	104.5	103.8	103.4	103.8	102.1	102.0	100.6	101.6	102.0	104.0	107.3
Drug and proprietary stores	591	106.3	108.0	107.6	109.6	109.9	111.1	113.9	119.8	125.7	129.8	136.9
Liquor stores	592	105.9	106.9	109.6	101.8	100.1	104.7	113.8	109.9	116.5	114.5	127.7
Used merchandise stores	593	103.0	102.3	115.7	116.7	119.5	120.6	132.6	140.3	163.6	183.2	216.7
Miscellaneous shopping goods stores	594	107.4	109.3	107.9	111.7	117.3	123.2	125.3	129.4	138.7	143.7	150.6
Nonstore retailers	596	111.1	112.5	126.5	132.2	149.0	152.5	173.5	186.8	208.3	220.6	263.2
Fuel dealers	598	84.6	85.3	84.3	91.9	99.0	111.4	112.5	109.1	105.8	115.2	117.3
Retail stores, n.e.c.	599	114.5	104.0	112.5	118.1	125.8	127.0	140.2	147.8	157.4	162.5	168.1
Finance and services												
Commercial banks	602	107.7	110.1	111.0	118.5	121.7	126.4	129.7	133.0	132.6	135.9	143.2
Hotels and motels	701	96.2	99.3	108.0	106.5	109.9	110.5	110.0	108.2	108.2	109.9	114.1
Laundry, cleaning, and garment services	721	102.3	99.9	99.3	99.9	105.0	106.6	109.8	109.0	116.0	120.8	123.6
Photographic studios, portrait	722	98.2	92.1	95.8	101.8	108.3	116.2	110.7	114.1	121.6	107.7	112.0
Beauty shops	723	97.5	95.8	100.9	97.0	101.1	104.8	107.6	108.5	110.5	113.4	114.5
Barber shops	724	100.7	94.9	113.2	121.9	118.8	115.7	128.8	150.4	157.4	132.8	129.9
Funeral services and crematories	726	91.2	89.9	103.8	98.7	104.3	100.2	97.6	101.9	104.2	100.2	93.9
Automotive repair shops	753	107.9	100.1	105.1	105.7	114.3	121.6	116.1	117.2	124.9	126.4	128.5
Motion picture theaters	783	118.1	118.2	114.8	113.8	110.4	105.0	104.1	103.4	106.1	108.7	112.3

[1] Refers to output per employee.

[2] Refers to output per full-time equivalent employee year on fiscal basis.

n.e.c. = not elsewhere classified

47. Unemployment rates, approximating U.S. concepts, in nine countries, quarterly data seasonally adjusted

Country	Annual average		1999				2000			
	1999	2000	I	II	III	IV	I	II	III	IV
United States	4.2	4.0	4.3	4.3	4.2	4.1	4.0	4.0	4.1	4.0
Canada	6.8	5.8	7.1	7.1	6.8	6.2	6.0	5.8	5.8	5.7
Australia	7.2	6.6	7.5	7.4	7.1	7.0	6.8	6.7	6.3	6.5
Japan[1]	4.7	4.8	4.7	4.8	4.8	4.7	4.8	4.7	4.7	4.8
France[1]	11.2	9.7	11.4	11.3	11.2	10.8	10.2	9.7	9.6	9.2
Germany[1]	8.7	8.3	8.8	8.8	8.8	8.7	8.4	8.3	8.2	8.1
Italy[1,2]	11.5	10.7	11.8	11.7	11.5	11.2	11.3	10.8	10.6	10.1
Sweden[1]	7.1	5.9	7.1	7.0	7.1	7.1	6.7	6.0	5.6	5.2
United Kingdom[1]	6.1	–	6.2	6.1	5.9	5.9	5.8	5.5	5.4	–

[1] Preliminary for 2000 for Japan, France, Germany (unified), Italy, and Sweden and for 1999 onward for the United Kingdom.

[2] Quarterly rates are for the first month of the quarter.

NOTE: Quarterly figures for France and Germany are calculated by applying annual adjustment factors to current published data, and therefore should be viewed as less precise indicators of unemployment under U.S. concepts than the annual figures. See "Notes on the data" for information on breaks in series. For further qualifications and historical data, see *Comparative Civilian Labor Force Statistics, Ten Countries, 1959–2000* (Bureau of Labor Statistics, Mar. 16, 2001).

Dash indicates data not available.

48. Annual data: Employment status of the working-age population, approximating U.S. concepts, 10 countries

[Numbers in thousands]

Employment status and country	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Civilian labor force										
United States[1]	126,346	128,105	129,200	131,056	132,304	133,943	136,297	137,673	139,368	140,863
Canada	14,128	14,168	14,299	14,387	14,500	14,650	14,936	15,216	15,513	15,745
Australia	8,490	8,562	8,619	8,776	9,001	9,127	9,221	9,347	9,470	9,682
Japan	64,280	65,040	65,470	65,780	65,990	66,450	67,200	67,240	67,090	66,990
France	24,470	24,570	24,640	24,780	24,830	25,090	25,210	25,540	25,860	–
Germany[2]	39,130	39,040	39,140	39,210	39,100	39,180	39,480	39,520	39,630	–
Italy	22,940	22,910	22,570	22,450	22,460	22,570	22,680	22,960	23,130	–
Netherlands	6,780	6,940	7,050	7,200	7,230	7,440	7,510	7,670	7,750	–
Sweden	4,591	4,520	4,443	4,418	4,460	4,459	4,418	4,402	4,430	–
United Kingdom	28,610	28,410	28,310	28,280	28,480	28,620	28,760	28,870	29,090	–
Participation rate[3]										
United States[1]	66.2	66.4	66.3	66.6	66.6	66.8	67.1	67.1	67.1	67.2
Canada	66.7	65.9	65.5	65.2	64.9	64.7	65.0	65.4	65.8	65.9
Australia	64.1	63.9	63.6	63.9	64.6	64.6	64.3	64.4	64.2	64.7
Japan	63.2	63.4	63.3	63.1	62.9	63.0	63.2	62.8	62.4	62.0
France	55.9	55.8	55.6	55.5	55.3	55.5	55.3	55.7	56.0	–
Germany[2]	58.9	58.3	58.0	57.6	57.3	57.4	57.7	57.7	57.9	–
Italy	47.7	47.5	47.9	47.3	47.1	47.1	47.2	47.6	47.8	–
Netherlands	56.8	57.7	58.2	59.0	58.9	60.3	60.6	61.4	61.5	–
Sweden	67.0	65.7	64.5	63.7	64.1	64.0	63.3	62.8	63.2	–
United Kingdom	63.7	63.1	62.8	62.5	62.7	62.7	62.8	62.7	62.9	–
Employed										
United States[1]	117,718	118,492	120,259	123,060	124,900	126,708	129,558	131,463	133,488	135,208
Canada	12,747	12,672	12,770	13,027	13,271	13,380	13,705	14,068	14,456	14,827
Australia	7,676	7,637	7,680	7,921	8,235	8,344	8,429	8,597	8,785	9,043
Japan	62,920	63,620	63,810	63,860	63,890	64,200	64,900	64,450	63,920	63,790
France	22,120	22,020	21,740	21,730	21,910	21,960	22,090	22,520	22,970	–
Germany[2]	36,920	36,420	36,030	35,890	35,900	35,680	35,570	35,830	36,170	–
Italy	21,360	21,230	20,270	19,940	19,820	19,920	19,990	20,210	20,460	–
Netherlands	6,380	6,540	6,590	6,680	6,730	6,970	7,110	7,360	7,490	–
Sweden	4,447	4,265	4,028	3,992	4,056	4,019	3,973	4,034	4,117	–
United Kingdom	26,090	25,530	25,340	25,550	26,000	26,280	26,740	27,050	27,330	–
Employment-population ratio[4]										
United States[1]	61.7	61.5	61.7	62.5	62.9	63.2	63.8	64.1	64.3	64.5
Canada	60.2	58.9	58.5	59.0	59.4	59.1	59.7	60.4	61.3	62.1
Australia	57.9	57.0	56.6	57.7	59.1	59.1	58.8	59.2	59.6	60.4
Japan	61.8	62.0	61.7	61.3	60.9	60.9	61.0	60.2	59.4	59.0
France	50.6	50.0	49.0	48.7	48.8	48.5	48.5	49.1	49.8	–
Germany[2]	55.5	54.4	53.4	52.8	52.6	52.2	52.0	52.3	52.8	–
Italy	44.5	44.0	43.0	42.0	41.5	41.6	41.6	41.9	42.3	–
Netherlands	53.4	54.4	54.4	54.8	54.9	56.5	57.4	58.9	59.4	–
Sweden	64.9	62.0	58.5	57.6	58.3	57.7	56.9	57.6	58.7	–
United Kingdom	58.0	56.7	56.2	56.5	57.2	57.6	58.3	58.7	59.1	–
Unemployed										
United States[1]	8,628	9,613	8,940	7,996	7,404	7,236	6,739	6,210	5,880	5,655
Canada	1,381	1,496	1,530	1,359	1,229	1,271	1,230	1,148	1,058	918
Australia	814	925	939	856	766	783	791	750	685	638
Japan	1,360	1,420	1,660	1,920	2,100	2,250	2,300	2,790	3,170	3,200
France	2,350	2,550	2,900	3,060	2,920	3,130	3,130	3,020	2,890	–
Germany[2]	2,210	2,620	3,110	3,320	3,200	3,500	3,910	3,690	3,460	–
Italy	1,580	1,680	2,300	2,510	2,640	2,650	2,690	2,750	2,670	–
Netherlands	400	390	460	520	510	470	400	310	260	–
Sweden	144	255	415	426	404	440	445	368	313	–
United Kingdom	2,520	2,880	2,970	2,730	2,480	2,340	2,020	1,820	1,760	–
Unemployment rate										
United States[1]	6.8	7.5	6.9	6.1	5.6	5.4	4.9	4.5	4.2	4.0
Canada	9.8	10.6	10.7	9.4	8.5	8.7	8.2	7.5	6.8	5.8
Australia	9.6	10.8	10.9	9.7	8.5	8.6	8.6	8.0	7.2	6.6
Japan	2.1	2.2	2.5	2.9	3.2	3.4	3.4	4.1	4.7	4.8
France	9.6	10.4	11.8	12.3	11.8	12.5	12.4	11.8	11.2	9.7
Germany[2]	5.6	6.7	7.9	8.5	8.2	8.9	9.9	9.3	8.7	–
Italy	6.9	7.3	10.2	11.2	11.8	11.7	11.9	12.0	11.5	10.7
Netherlands	5.9	5.6	6.5	7.2	7.1	6.3	5.3	4.0	3.4	–
Sweden	3.1	5.6	9.3	9.6	9.1	9.9	10.1	8.4	7.1	5.9
United Kingdom	8.8	10.1	10.5	9.7	8.7	8.2	7.0	6.3	6.1	–

[1] Data for 1994 are not directly comparable with data for 1993 and earlier years. For additional information, see the box note under "Employment and Unemployment Data" in the notes to this section.

[2] Data from 1991 onward refer to unified Germany. See *Comparative Civilian Labor Force Statistics, Ten Countries, 1959–2000*, Mar. 16, 2001, on the Internet at **http://stats.bls.gov/flsdata.htm**.

[3] Labor force as a percent of the working-age population.

[4] Employment as a percent of the working-age population.

NOTE: See Notes on the data for information on breaks in series for the United States, France, Germany, Italy, the Netherlands, and Sweden.

Dash indicates data are not available.

p = preliminary.

49. Annual indexes of manufacturing productivity and related measures, 12 countries

[1992 = 100]

Item and country	1960	1970	1980	1989	1990	1991	1993	1994	1995	1996	1997	1998	1999	2000
Output per hour														
United States	–	–	70.5	95.7	96.9	97.8	102.1	107.3	113.8	117.0	121.1	127.0	135.1	144.7
Canada	38.7	56.6	75.1	93.7	95.7	95.3	104.5	109.9	111.0	109.5	112.8	112.5	114.9	116.3
Japan	14.0	38.0	63.9	89.5	95.4	99.4	100.5	101.8	109.3	115.8	121.4	120.4	125.8	132.6
Belgium	18.0	32.9	65.4	96.9	96.8	99.1	102.5	108.4	113.2	115.5	122.4	123.6	128.9	132.8
Denmark	29.9	52.7	90.3	99.6	99.1	99.6	104.5	–	–	–	–	–	–	–
France	21.8	43.0	66.5	91.9	93.5	96.9	100.6	108.5	114.5	115.0	122.6	124.0	132.9	140.5
Germany	29.2	52.0	77.2	94.6	99.0	99.0	101.6	110.1	113.2	116.8	122.4	126.7	128.5	–
Italy	20.2	37.9	65.9	89.4	92.5	95.2	102.9	105.6	109.3	109.5	111.5	111.1	111.8	115.7
Netherlands	18.6	38.1	69.2	97.1	98.6	99.6	101.4	112.7	117.7	119.7	125.7	127.8	127.7	–
Norway	36.7	57.8	76.7	94.6	96.6	97.5	100.6	101.4	102.0	102.0	103.0	103.9	103.1	104.2
Sweden	27.3	52.2	73.1	93.2	94.6	95.5	107.3	119.4	121.9	124.5	133.0	135.6	143.5	150.4
United Kingdom	31.2	44.7	56.1	86.2	88.3	92.2	104.0	106.8	104.8	103.2	104.0	104.6	110.8	116.4
Output														
United States	–	–	75.8	102.4	101.6	98.3	103.5	111.1	118.4	121.3	127.7	133.5	141.0	149.5
Canada	34.2	60.6	86.0	112.6	108.6	99.0	104.6	113.2	118.1	119.8	128.1	133.1	140.8	148.8
Japan	10.7	38.8	59.9	90.2	96.3	101.4	96.0	95.4	100.6	106.7	111.1	103.6	101.0	106.9
Belgium	30.7	57.6	78.2	99.1	101.0	100.7	97.0	101.4	104.2	105.1	109.9	111.8	117.7	122.0
Denmark	40.8	68.0	91.3	104.3	102.7	101.7	99.0	109.3	114.7	109.7	112.6	115.3	119.8	127.4
France	31.0	64.1	88.7	97.2	99.1	99.8	95.7	100.3	104.9	104.6	109.7	111.5	117.3	121.2
Germany	41.5	70.9	85.3	94.0	99.1	102.3	92.5	95.2	95.3	93.5	96.3	100.9	102.2	–
Italy	21.9	45.8	80.4	98.1	99.6	99.2	96.4	102.2	107.2	105.6	108.3	110.3	110.2	113.9
Netherlands	31.7	59.5	77.4	96.9	100.1	100.6	98.2	104.2	107.8	108.4	114.1	116.6	118.7	–
Norway	56.5	89.1	103.6	101.3	100.2	98.3	102.7	106.7	109.0	110.1	115.7	117.6	114.0	110.9
Sweden	45.9	80.7	90.7	110.9	110.1	104.1	101.9	117.1	128.4	131.1	138.6	144.6	153.6	163.4
United Kingdom	67.7	90.3	87.2	105.4	105.3	100.0	101.4	106.1	107.8	108.2	109.6	109.9	110.1	111.9
Total hours														
United States	92.1	104.4	107.5	107.1	104.8	100.4	101.4	103.6	104.0	103.7	105.5	105.2	104.3	103.4
Canada	88.3	107.1	114.6	120.2	113.5	103.9	100.1	103.0	106.4	109.4	113.5	118.3	122.6	128.0
Japan	76.3	102.3	93.8	100.8	100.9	102.0	95.6	93.7	92.0	92.2	91.5	86.1	80.3	80.6
Belgium	170.7	174.7	119.7	102.3	104.3	101.5	94.7	93.6	92.0	91.0	89.8	90.5	91.3	91.8
Denmark	136.5	129.0	101.1	104.7	103.7	102.1	94.8	–	–	–	–	–	–	–
France	142.3	149.0	133.3	105.8	105.9	103.0	95.1	92.4	91.6	91.0	89.5	89.9	88.3	86.2
Germany	142.3	136.3	110.5	99.3	100.1	103.3	91.0	86.5	84.2	80.1	78.7	79.6	79.5	–
Italy	108.7	120.9	122.0	109.7	107.7	104.2	93.6	96.7	98.0	96.5	97.1	99.3	98.6	98.5
Netherlands	170.6	156.2	111.8	99.8	101.5	101.0	96.9	92.4	91.6	90.5	90.8	91.2	93.0	–
Norway	154.0	154.3	135.0	107.1	103.7	100.8	102.1	105.2	106.9	107.9	112.3	113.2	110.6	106.4
Sweden	168.3	154.7	124.0	119.0	116.4	109.0	94.9	98.1	105.3	105.3	104.2	106.6	107.1	108.6
United Kingdom	217.3	202.1	155.3	122.3	119.2	108.5	97.5	99.4	102.9	104.8	105.4	105.0	99.4	96.1
Compensation per hour														
United States	14.9	23.7	55.6	86.6	90.8	95.6	102.7	105.6	107.9	109.3	111.4	117.3	122.1	130.1
Canada	9.9	17.0	47.7	82.5	89.5	94.7	99.6	100.4	103.6	102.8	106.7	110.8	113.1	117.0
Japan	4.3	16.5	58.6	84.2	90.7	95.9	104.6	106.7	109.5	110.9	113.9	115.8	115.5	115.5
Belgium	5.4	13.7	52.5	85.9	90.1	97.3	104.8	106.1	109.2	112.0	115.2	116.0	116.8	119.8
Denmark	4.6	13.3	49.6	87.7	92.7	95.9	104.6	–	–	–	–	–	–	–
France	4.3	10.3	40.8	86.0	90.6	96.2	103.0	105.6	108.4	110.2	113.0	114.9	118.6	124.9
Germany	8.1	20.7	53.6	83.2	89.4	92.1	106.1	112.3	118.5	125.2	128.0	128.9	130.8	–
Italy	1.6	4.7	28.4	75.9	84.4	93.6	107.5	107.8	112.8	120.3	125.4	123.0	127.5	131.2
Netherlands	6.4	20.2	64.4	88.5	90.8	95.2	103.7	108.2	110.6	113.2	115.8	118.3	123.5	–
Norway	4.7	11.8	39.0	87.2	92.3	97.5	101.5	104.4	109.2	113.6	118.7	126.2	133.4	140.1
Sweden	4.1	10.7	37.3	79.4	87.8	95.5	97.2	99.8	106.3	114.2	119.7	123.3	127.5	130.7
United Kingdom	3.1	6.3	33.2	72.9	80.9	90.5	104.3	106.5	107.4	108.2	111.4	117.0	124.5	129.1
Unit labor costs: National currency basis														
United States	–	–	78.8	90.5	93.7	97.7	100.6	98.5	94.8	93.5	92.0	92.4	90.4	89.9
Canada	25.6	30.1	63.2	88.0	92.3	99.7	97.6	94.3	95.5	95.9	95.9	98.8	98.4	100.6
Japan	30.9	43.3	91.7	94.0	95.0	96.5	104.1	104.9	100.1	95.8	93.8	96.2	91.8	87.1
Belgium	30.1	41.7	80.3	88.7	93.0	98.1	102.3	97.9	96.4	95.6	93.3	93.7	90.6	90.2
Denmark	15.4	25.2	55.0	88.1	93.6	96.3	100.1	93.0	93.8	100.9	102.0	102.8	101.9	99.0
France	19.5	24.0	61.3	93.6	96.8	99.3	102.4	97.3	94.7	95.9	92.2	92.7	89.3	88.9
Germany	27.8	39.8	69.4	87.9	90.3	93.1	104.5	102.0	104.7	107.2	104.6	101.8	101.8	101.8
Italy	7.9	12.4	43.1	84.9	91.3	98.4	104.4	102.1	103.2	109.9	112.4	110.8	112.0	112.0
Netherlands	34.4	52.9	93.0	91.1	92.1	95.5	102.3	96.0	94.0	94.6	92.2	92.5	–	–
Norway	12.9	20.4	50.8	92.2	95.6	100.0	100.9	102.9	107.1	111.4	115.2	121.5	128.5	128.5
Sweden	15.0	20.6	51.0	85.1	92.8	100.0	90.6	83.6	87.2	91.7	90.0	90.9	91.3	91.3
United Kingdom	9.8	14.1	59.1	84.6	91.6	98.2	100.3	99.7	102.5	104.8	107.1	111.9	112.3	112.3
Unit labor costs: U.S. dollar basis														
United States	–	–	78.8	90.5	93.7	97.7	100.6	98.5	94.8	93.5	92.0	92.4	91.4	91.4
Canada	32.0	34.8	65.3	89.8	95.6	105.1	91.4	83.4	84.1	85.0	83.6	80.5	79.8	79.8
Japan	10.9	15.3	51.3	86.3	83.1	90.9	118.8	130.1	135.1	111.7	98.3	93.1	105.7	105.7
Belgium	19.4	27.0	88.3	72.3	89.5	92.3	95.1	94.2	105.2	99.3	83.7	83.0	79.3	79.3
Denmark	13.5	20.3	58.9	72.6	91.3	90.8	93.2	88.3	101.1	105.0	93.1	92.6	94.1	94.1
France	21.1	23.0	76.8	77.6	94.1	93.1	95.6	92.9	100.6	99.2	83.6	83.2	79.6	79.6
Germany	10.4	17.1	59.6	73.0	87.3	87.5	98.6	98.2	114.1	111.3	94.1	90.3	86.6	86.6
Italy	15.6	24.4	62.0	76.2	93.8	97.6	81.8	78.1	78.0	87.8	81.3	78.6	75.9	75.9
Netherlands	16.0	25.7	82.3	75.5	88.9	89.8	96.8	92.8	103.0	98.6	83.0	82.0	–	–
Norway	11.3	17.8	63.9	82.9	95.0	95.7	88.3	90.7	105.0	107.1	101.1	100.0	102.2	102.2
Sweden	16.9	23.1	70.3	76.8	91.3	96.3	67.7	63.1	71.2	79.7	68.6	66.6	64.3	64.3
United Kingdom	15.6	19.2	77.8	78.5	92.5	98.2	85.3	86.5	91.6	92.6	99.3	105.0	102.8	102.8

NOTE: Data for Germany for years before 1992 are for the former West Germany. Data for 1992 onward are for unified Germany. Dash indicates data not available.

50. Occupational injury and illness rates by industry,[1] United States

Industry and type of case[2]	1989[1]	1990	1991	1992	1993[4]	1994[4]	1995[4]	1996[4]	1997[4]	1998[4]	1999[4]	2000[4]
PRIVATE SECTOR[5]												
Total cases	8.6	8.8	8.4	8.9	8.5	8.4	8.1	7.4	7.1	6.7	6.3	6.1
Lost workday cases	4.0	4.1	3.9	3.9	3.8	3.8	3.6	3.4	3.3	3.1	3.0	3.0
Lost workdays	78.7	84.0	86.5	93.8	–	–	–	–	–	–	–	–
Agriculture, forestry, and fishing[5]												
Total cases	10.9	11.6	10.8	11.6	11.2	10.0	9.7	8.7	8.4	7.9	7.3	7.1
Lost workday cases	5.7	5.9	5.4	5.4	5.0	4.7	4.3	3.9	4.1	3.9	3.4	3.6
Lost workdays	100.9	112.2	108.3	126.9	–	–	–	–	–	–	–	–
Mining												
Total cases	8.5	8.3	7.4	7.3	6.8	6.3	6.2	5.4	5.9	4.9	4.4	4.7
Lost workday cases	4.8	5.0	4.5	4.1	3.9	3.9	3.9	3.2	3.7	2.9	2.7	3.0
Lost workdays	137.2	119.5	129.6	204.7	–	–	–	–	–	–	–	–
Construction												
Total cases	14.3	14.2	13.0	13.1	12.2	11.8	10.6	9.9	9.5	8.8	8.6	8.3
Lost workday cases	6.8	6.7	6.1	5.8	5.5	5.5	4.9	4.5	4.4	4.0	4.2	4.1
Lost workdays	143.3	147.9	148.1	161.9	–	–	–	–	–	–	–	–
General building contractors												
Total cases	13.9	13.4	12.0	12.2	11.5	10.9	9.8	9.0	8.5	8.4	8.0	7.8
Lost workday cases	6.5	6.4	5.5	5.4	5.1	5.1	4.4	4.0	3.7	3.9	3.7	3.9
Lost workdays	137.3	137.6	132.0	142.7	–	–	–	–	–	–	–	–
Heavy construction, except building:												
Total cases	13.8	13.8	12.8	12.1	11.1	10.2	9.9	9.0	8.7	8.2	7.8	7.6
Lost workday cases	6.5	6.3	6.0	5.4	5.1	5.0	4.8	4.3	4.3	4.1	3.8	3.7
Lost workdays	147.1	144.6	160.1	165.8	–	–	–	–	–	–	–	–
Special trades contractors:												
Total cases	14.6	14.7	13.5	13.8	12.8	12.5	11.1	10.4	10.0	9.1	8.9	8.6
Lost workday cases	6.9	6.9	6.3	6.1	5.8	5.8	5.0	4.8	4.7	4.1	4.4	4.3
Lost workdays	144.9	153.1	151.3	168.3	–	–	–	–	–	–	–	–
Manufacturing												
Total cases	13.1	13.2	12.7	12.5	12.1	12.2	11.6	10.6	10.3	9.7	9.2	9.0
Lost workday cases	5.8	5.8	5.6	5.4	5.3	5.5	5.3	4.9	4.8	4.7	4.6	4.5
Lost workdays	113.0	120.7	121.5	124.6	–	–	–	–	–	–	–	–
Durable goods:												
Total cases	14.1	14.2	13.6	13.4	13.1	13.5	12.8	11.6	11.3	10.7	10.1	–
Lost workday cases	6.0	6.0	5.7	5.5	5.4	5.7	5.6	5.1	5.1	5.0	4.8	–
Lost workdays	116.5	123.3	122.9	126.7	–	–	–	–	–	–	–	–
Lumber and wood products:												
Total cases	18.4	18.1	16.8	16.3	15.9	15.7	14.9	14.2	13.5	13.2	13.0	12.1
Lost workday cases	9.4	8.8	8.3	7.6	7.6	7.7	7.0	6.8	6.5	6.8	6.7	6.1
Lost workdays	177.5	172.5	172.0	165.8	–	–	–	–	–	–	–	–
Furniture and fixtures:												
Total cases	16.1	16.9	15.9	14.8	14.6	15.0	13.9	12.2	12.0	11.4	11.5	11.2
Lost workday cases	7.2	7.8	7.2	6.6	6.5	7.0	6.4	5.4	5.8	5.7	5.9	5.9
Lost workdays	–	–	–	128.4	–	–	–	–	–	–	–	–
Stone, clay, and glass products:												
Total cases	15.5	15.4	14.8	13.6	13.8	13.2	12.3	12.4	11.8	11.8	10.7	10.4
Lost workday cases	7.4	7.3	6.8	6.1	6.3	6.5	5.7	6.0	5.7	6.0	5.4	5.5
Lost workdays	149.8	160.5	156.0	152.2	–	–	–	–	–	–	–	–
Primary metal industries:												
Total cases	18.7	19.0	17.7	17.5	17.0	16.8	16.5	15.0	15.0	14.0	12.9	12.6
Lost workday cases	8.1	8.1	7.4	7.1	7.3	7.2	7.2	6.8	7.2	7.0	6.3	6.3
Lost workdays	168.3	180.2	169.1	175.5	–	–	–	–	–	–	–	–
Fabricated metal products:												
Total cases	18.5	18.7	17.4	16.8	16.2	16.4	15.8	14.4	14.2	13.9	12.6	11.9
Lost workday cases	7.9	7.9	7.1	6.6	6.7	6.7	6.9	6.2	6.4	6.5	6.0	5.5
Lost workdays	147.6	155.7	146.6	144.0	–	–	–	–	–	–	–	–
Industrial machinery and equipment:												
Total cases	12.1	12.0	11.2	11.1	11.1	11.6	11.2	9.9	10.0	9.5	8.5	8.2
Lost workday cases	4.8	4.7	4.4	4.2	4.2	4.4	4.4	4.0	4.1	4.0	3.7	3.6
Lost workdays	86.8	88.9	86.6	87.7	–	–	–	–	–	–	–	–
Electronic and other electrical equipment:												
Total cases	9.1	9.1	8.6	8.4	8.3	8.3	7.6	6.8	6.6	5.9	5.7	5.7
Lost workday cases	3.9	3.8	3.7	3.6	3.5	3.6	3.3	3.1	3.1	2.8	2.8	2.9
Lost workdays	77.5	79.4	83.0	81.2	–	–	–	–	–	–	–	–
Transportation equipment:												
Total cases	17.7	17.8	18.3	18.7	18.5	19.6	18.6	16.3	15.4	14.6	13.7	13.7
Lost workday cases	6.8	6.9	7.0	7.1	7.1	7.8	7.9	7.0	6.6	6.6	6.4	6.3
Lost workdays	138.6	153.7	166.1	186.6	–	–	–	–	–	–	–	–
Instruments and related products:												
Total cases	5.6	5.9	6.0	5.9	5.6	5.9	5.3	5.1	4.8	4.0	4.0	4.5
Lost workday cases	2.5	2.7	2.7	2.7	2.5	2.7	2.4	2.3	2.3	1.9	1.8	2.2
Lost workdays	55.4	57.8	64.4	65.3	–	–	–	–	–	–	–	–
Miscellaneous manufacturing industries:												
Total cases	11.1	11.3	11.3	10.7	10.0	9.9	9.1	9.5	8.9	8.1	8.4	7.2
Lost workday cases	5.1	5.1	5.1	5.0	4.6	4.5	4.3	4.4	4.2	3.9	4.0	3.6
Lost workdays	97.6	113.1	104.0	108.2	–	–	–	–	–	–	–	–

See footnotes at end of table.

50. Continued—Occupational injury and illness rates by industry,[1] United States

Industry and type of case[2]	1989[1]	1990	1991	1992	1993[4]	1994[4]	1995[4]	1996[4]	1997[4]	1998[4]	1999[4]	2000[4]
Nondurable goods:												
Total cases	11.6	11.7	11.5	11.3	10.7	10.5	9.9	9.2	8.8	8.2	7.8	–
Lost workday cases	5.5	5.6	5.5	5.3	5.0	5.1	4.9	4.6	4.4	4.3	4.2	–
Lost workdays	107.8	116.9	119.7	121.8	–	–	–	–	–	–	–	–
Food and kindred products:												
Total cases	18.5	20.0	19.5	18.8	17.6	17.1	16.3	15.0	14.5	13.6	12.7	12.4
Lost workday cases	9.3	9.9	9.9	9.5	8.9	9.2	8.7	8.0	8.0	7.5	7.3	7.3
Lost workdays	174.7	202.6	207.2	211.9	–	–	–	–	–	–	–	–
Tobacco products:												
Total cases	8.7	7.7	6.4	6.0	5.8	5.3	5.6	6.7	5.9	6.4	5.5	6.2
Lost workday cases	3.4	3.2	2.8	2.4	2.3	2.4	2.6	2.8	2.7	3.4	2.2	3.1
Lost workdays	64.2	62.3	52.0	42.9	–	–	–	–	–	–	–	–
Textile mill products:												
Total cases	10.3	9.6	10.1	9.9	9.7	8.7	8.2	7.8	6.7	7.4	6.4	6.0
Lost workday cases	4.2	4.0	4.4	4.2	4.1	4.0	4.1	3.6	3.1	3.4	3.2	3.2
Lost workdays	81.4	85.1	88.3	87.1	–	–	–	–	–	–	–	–
Apparel and other textile products:												
Total cases	8.6	8.8	9.2	9.5	9.0	8.9	8.2	7.4	7.0	6.2	5.8	6.1
Lost workday cases	3.8	3.9	4.2	4.0	3.8	3.9	3.6	3.3	3.1	2.6	2.8	3.0
Lost workdays	80.5	92.1	99.9	104.6	–	–	–	–	–	–	–	–
Paper and allied products:												
Total cases	12.7	12.1	11.2	11.0	9.9	9.6	8.5	7.9	7.3	7.1	7.0	6.5
Lost workday cases	5.8	5.5	5.0	5.0	4.6	4.5	4.2	3.8	3.7	3.7	3.7	3.4
Lost workdays	132.9	124.8	122.7	125.9	–	–	–	–	–	–	–	–
Printing and publishing:												
Total cases	6.9	6.9	6.7	7.3	6.9	6.7	6.4	6.0	5.7	5.4	5.0	5.1
Lost workday cases	3.3	3.3	3.2	3.2	3.1	3.0	3.0	2.8	2.7	2.8	2.6	2.6
Lost workdays	63.8	69.8	74.5	74.8	–	–	–	–	–	–	–	–
Chemicals and allied products:												
Total cases	7.0	6.5	6.4	6.0	5.9	5.7	5.5	4.8	4.8	4.2	4.4	4.2
Lost workday cases	3.2	3.1	3.1	2.8	2.7	2.8	2.7	2.4	2.3	2.1	2.3	2.2
Lost workdays	63.4	61.6	62.4	64.2	–	–	–	–	–	–	–	–
Petroleum and coal products:												
Total cases	6.6	6.6	6.2	5.9	5.2	4.7	4.8	4.6	4.3	3.9	4.1	3.7
Lost workday cases	3.3	3.1	2.9	2.8	2.5	2.3	2.4	2.5	2.2	1.8	1.8	1.9
Lost workdays	68.1	77.3	68.2	71.2	–	–	–	–	–	–	–	–
Rubber and miscellaneous plastics products:												
Total cases	16.2	16.2	15.1	14.5	13.9	14.0	12.9	12.3	11.9	11.2	10.1	10.7
Lost workday cases	8.0	7.8	7.2	6.8	6.5	6.7	6.5	6.3	5.8	5.8	5.5	5.8
Lost workdays	147.2	151.3	150.9	153.3	–	–	–	–	–	–	–	–
Leather and leather products:												
Total cases	13.6	12.1	12.5	12.1	12.1	12.0	11.4	10.7	10.6	9.8	10.3	9.0
Lost workday cases	6.5	5.9	5.9	5.4	5.5	5.3	4.8	4.5	4.3	4.5	5.0	4.3
Lost workdays	130.4	152.3	140.8	128.5	–	–	–	–	–	–	–	–
Transportation and public utilities												
Total cases	9.2	9.6	9.3	9.1	9.5	9.3	9.1	8.7	8.2	7.3	7.3	–
Lost workday cases	5.3	5.5	5.4	5.1	5.4	5.5	5.2	5.1	4.8	4.3	4.4	4.3
Lost workdays	121.5	134.1	140.0	144.0	–	–	–	–	–	–	–	–
Wholesale and retail trade												
Total cases	8.0	7.9	7.6	8.4	8.1	7.9	7.5	6.8	6.7	6.5	6.1	–
Lost workday cases	3.6	3.5	3.4	3.5	3.4	3.4	3.2	2.9	3.0	2.8	2.7	–
Lost workdays	63.5	65.6	72.0	80.1	–	–	–	–	–	–	–	–
Wholesale trade:												
Total cases	7.7	7.4	7.2	7.6	7.8	7.7	7.5	6.6	6.5	6.5	6.3	5.8
Lost workday cases	4.0	3.7	3.7	3.6	3.7	3.8	3.6	3.4	3.2	3.3	3.3	–
Lost workdays	71.9	71.5	79.2	82.4	–	–	–	–	–	–	–	–
Retail trade:												
Total cases	8.1	8.1	7.7	8.7	8.2	7.9	7.5	6.9	6.8	6.5	6.1	–
Lost workday cases	3.4	3.4	3.3	3.4	3.3	3.3	3.0	2.8	2.9	2.7	2.5	–
Lost workdays	60.0	63.2	69.1	79.2	–	–	–	–	–	–	–	–
Finance, insurance, and real estate												
Total cases	2.0	2.4	2.4	2.9	2.9	2.7	2.6	2.4	2.2	.7	1.8	1.9
Lost workday cases	.9	1.1	1.1	1.2	1.2	1.1	1.0	.9	.9	.5	.8	.8
Lost workdays	17.6	27.3	24.1	32.9	–	–	–	–	–	–	–	–
Services												
Total cases	5.5	6.0	6.2	7.1	6.7	6.5	6.4	6.0	5.6	5.2	4.9	4.9
Lost workday cases	2.7	2.8	2.8	3.0	2.8	2.8	2.8	2.6	2.5	2.4	2.2	2.2
Lost workdays	51.2	56.4	60.0	68.6	–	–	–	–	–	–	–	–

[1] Data for 1989 and subsequent years are based on the *Standard Industrial Classification Manual*, 1987 Edition. For this reason, they are not strictly comparable with data for the years 1985–88, which were based on the *Standard Industrial Classification Manual*, 1972 Edition, 1977 Supplement.

[2] Beginning with the 1992 survey, the annual survey measures only nonfatal injuries and illnesses, while past surveys covered both fatal and nonfatal incidents. To better address fatalities, a basic element of workplace safety, BLS implemented the Census of Fatal Occupational Injuries.

[3] The incidence rates represent the number of injuries and illnesses or lost workdays per 100 full-time workers and were calculated as (N/EH) X 200,000, where:

N = number of injuries and illnesses or lost workdays;
EH = total hours worked by all employees during the calendar year; and
200,000 = base for 100 full-time equivalent workers (working 40 hours per week, 50 weeks per year).

[4] Beginning with the 1993 survey, lost workday estimates will not be generated. As of 1992, BLS began generating percent distributions and the median number of days away from work by industry and for groups of workers sustaining similar work disabilities.

[5] Excludes farms with fewer than 11 employees since 1976.

Dash indicates data not available.

51. Fatal occupational injuries by event or exposure, 1994-2000

Event or exposure[1]	Fatalities			
	1994-98	1999[2]	2000	
	Average	Number	Number	Percent
Total	6,280	6,054	5,915	100
Transportation incidents	2,640	2,618	2,571	43
Highway incident	1,374	1,496	1,363	23
Collision between vehicles, mobile equipment	662	714	694	12
Moving in same direction	113	129	136	2
Moving in opposite directions, oncoming	240	270	243	4
Moving in intersection	136	161	153	3
Vehicle struck stationary object or equipment	272	334	279	5
Noncollision incident	368	390	356	6
Jackknifed or overturned—no collision	280	322	304	5
Nonhighway (farm, industrial premises) incident	387	352	399	7
Overturned	215	206	213	4
Aircraft	304	228	280	5
Worker struck by a vehicle	382	377	370	6
Water vehicle incident	104	102	84	1
Railway	78	56	71	1
Assaults and violent acts	1,168	909	929	16
Homicides	923	651	677	11
Shooting	748	509	533	9
Stabbing	68	62	66	1
Other, including bombing	107	80	78	1
Self-inflicted injuries	215	218	220	4
Contact with objects and equipment	984	1,030	1,005	17
Struck by object	564	585	570	10
Struck by falling object	364	358	357	6
Struck by flying object	60	55	61	1
Caught in or compressed by equipment or objects	281	302	294	5
Caught in running equipment or machinery	148	163	157	3
Caught in or crushed in collapsing materials	124	129	123	2
Falls	686	721	734	12
Fall to lower level	609	634	659	11
Fall from ladder	101	96	110	2
Fall from roof	146	153	150	3
Fall from scaffold, staging	89	92	85	2
Fall on same level	53	70	56	1
Exposure to harmful substances or environments	583	533	480	8
Contact with electric current	322	280	256	4
Contact with overhead power lines	136	125	128	2
Contact with temperature extremes	45	51	29	–
Exposure to caustic, noxious, or allergenic substances	118	108	100	2
Inhalation of substances	66	55	48	1
Oxygen deficiency	96	92	93	2
Drowning, submersion	77	75	74	1
Fires and explosions	199	216	177	3
Other events or exposures[3]	21	27	19	–

[1] Based on the 1992 BLS Occupational Injury and Illness Classification Structures.

[2] The BLS news release issued August 17, 2000, reported a total of 6,023 fatal work injuries for calendar year 1999. Since then, an additional 31 job-related fatalities were identified, bringing the total job-related fatality count for 1999 to 6,054.

[3] Includes the category "Bodily reaction and exertion."

NOTE: Totals for major categories may include subcategories not shown separately. Percentages may not add to totals because of rounding. Dash indicates less than 0.5 percent.

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